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Utilitarian vs hedonic motivations to shop online: the role of voice shopping modality as a moderator

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Introduction

The e-commerce has rapidly spread through the last years because of the advantages related to its use, like convenience and saving time and effort while shopping. It currently counts billions of users worldwide thanks to technological development and innovative solutions adopted for business. Nowadays, the Asia-Pacific area is the most powerful one for the e-commerce's activities leaded by Alibaba Group. On the other side of the planet, Amazon follows the Chinese ecommerce's giant acting as a big player. It has been written so much about the inner motivations that drive consumers to shop. For instance, the traditional literature has considered the final consumer as a Homo aeconomics always able to maximize his utility while shopping. More recently, this theory has been overcome in favour of a new way of thinking. Hence, it is demonstrated that consumers shop online both for utilitarian and hedonic motivations. Specifically, the former reflects the rational path to purchase followed by consumers, while the latter stresses the experiential side of the purchasing act. Given the online world within which this thesis is designed, it is worth to study how and whether these two inner motivations to shop can coexist within the new paradigm of e-commerce. Indeed, the v-commerce is the last online shopping modality which is going to re-shape the more traditional relationship consumers have had with brands and companies until now. In particular, it stands for vocal/voice commerce, practically meant as the possibility consumers have to order or buy something they want just using their voice, without touching or typing anything on a screen. Obviously, the v-commerce represents a new disruptive solution in the e-commerce scenario, but it is not the only novelty. Indeed, vocal commerce requires suitable technologies to execute the consumer's vocal commands. Coherently, Amazon and Google are marketing their own smart speakers, respectively Amazon Alexa and Google Home. It can be argued that this new shopping modality would affect online buying behaviors known so far. There are not evidences in the current literature yet. Thus, this experimental thesis would test whether the online shopping modalities moderate the main relationship between the motives to shop online and the willingness to buy. More specifically, two are the shopping modalities (traditional e-commerce and vocal-commerce), as well as the motives to shop online (utilitarian and traditional). This work of thesis is made up of three chapters. The first one is entitled "The evolution of e-commerce: the vocal commerce", and it is mainly focused on the vocal-commerce's phenomenon and related aspects. Yet, the chapter comprises a distinction among voice assistants and smart speakers, going deeper in the strategies followed by Amazon and Google to market their smart speakers. Furthermore, the profile of v-commerce's users is designed with the related perceived advantages and disadvantages. Moreover, three business cases are showed to underline the relevance of the topic at hand. Lastly, some suggestions are given to shape the future of v-commerce. All data and concepts written here come from not-scientific literature. The chapter number two is called *"Hedonic and utilitarian motives to shop online"* and represents the core of this thesis, since it hosts the theoretical framework that leads to the hypothesis formulation for the conceptual model to be tested. This chapter is primarily about the utilitarian and hedonic motives to shop largely discussed on the scientific literature. The third and final chapter entitled *"Methodology for data analysis and results"* presents the statistical outcomes obtained from the online experiment with all related appendices, which show graphs and tabs.

Chapter one: The evolution of e-commerce: the v-commerce

1. Artificial Intelligence and Machine Learning within e-commerce

The number of global internet users reached 4.39 billion by the end of January 2019 (www.wearesocial.com), and half of them live in the Asia-Pacific area. Nearly 59% of them purchase online through devises. According to a study conducted by Casaleggio Associati (2019), 40% of the world population (almost 2,82 billion of people) purchased online in 2018 and it is estimated that 3.20 billion of people will buy online by 2022. By continuing to present the ecommerce scenario worldwide, it is worth to say that its value reached 2.875 billion of dollars in 2018, increased by 12% from the previous year. In particular, China alone was able to generate 855 billion dollars last year, which represents a rise of 19% from 2017. Together with China, Japan and Korea are respectively at the 4th and 6th place in the ranking for the investment made in the digital world (Insights on APAC Region, 2019). As can be deducted from these data, the Asia-Pacific one is a flourishing area for the e-commerce, where Alibaba Group leads this market with 467,72 billion dollars of revenue (Casaleggio Associati, 2019). The high value generated in this world area is followed by the US' market one, which achieved an estimated revenue of 504 billion of dollars in 2018. Specifically, Amazon is the American giant in e-commerce that reached 11 billion dollars of profit on September 2018, accounting for the 49% of online sales, followed by Walmart (Casaleggio Associati, 2019). From a European standpoint, 69% of internet users bought online in 2018 and their available budget was 873 Euros on average per user (Casaleggio Associati, 2018). Interestingly, six over ten European consumers purchased online using mobile devices in 2018. Obviously, adequate differences are worth to consider regarding Italy's trend. Indeed, the Ecommerce's revenue in our country reached 41.5 billion euros in 2018, increased by 18% from 2017 (Casaleggio Associati, 2019). At the end of 2018, the Italian industries operating in the ecommerce were more than 20,000. This level has been reached over a period of ten years (ilsole24ore). The Italian consumers who purchase online are almost 38 million (62% of the population), and this number is predicted to grow reaching 41 million by 2023 (Casaleggio Associati, 2019). Moreover, two out of three Italian purchase online or pay online, and 42% of them have connected through mobile devices (www.wearesocial.com). Nonetheless, the percentage of Italian population who shop online is still lower compared to the one in other European countries (E-commerce in Europe 2018, Postnord, 2018). These data are useful to frame the e-commerce scenario, which is currently facing new challenges with the adoption of Artificial Intelligence (AI). A founding father of this discipline described AI as "the process of making a machine behave in ways that would be called intelligent if a human were so behaving" (John McCarthy, 1995). Since

the autonomous learning has become crucial for robots and computers in this digital era, a new disruptive application of AI has taken form. This is called Machine Learning and it aims to "allow computers learn automatically with no human interventions and adjust actions accordingly" (www.expertsystem.com). Machine Learning is going to shape future relations among consumers and brands with the spread of smart speakers/assistants, which vocally interact with humans. This is where should be described what a smart assistant is and how it works in order to better understand the vocal-commerce's functionalities.

1.1 From Voice Assistants to Smart Speakers

The voice assistant is "a digital assistant that uses voice recognition, speech synthesis, and natural language processing to provide a service" (www.smartsheet.com). The first voice assistant of the history was the IBM Shoebox, which was introduces by IBM in 1961. It was able to recognize 16 words and digits from 0 to 9 (voicebot.ai). It was a huge innovation since the first mobile phone was conceived in 1973, whereas the technology that invented the internet would have been available just ten years later (www.tradegecko.com). As time goes on, other giant operating in the market decided to adopt and improve this innovative solution thanks to new technologies. So, Google launched Google Now for Android system on May 2012. Then, Apple came out with Siri, the first digital virtual assistant ever realized for a smartphone, and released it with iPhone 4s on October 2014 (www.smartsheet.com). These two smartphone-based voice assistants complete similar tasks, like sending messages, answering questions, showing weather forecasting and so on. The level of service offered by prior voice assistants improved with Alexa & Amazon Echo, when this smart speaker was introduced by Amazon on November 2014, firstly available to Prime members only (voicebot.ai). Indeed, this smart speaker enables people to search the web, create to-do and shopping list, control smart-home products and shop online just with vocal commands (thewirecutter.com). The terms smart speaker and voice assistant are used interchangeably, because the former uses voice assistant's technology within smart devices. A point of difference is the responsiveness current smart speakers have compared to voice assistants. No activation button to be pressed. Only a trigger word, which usually coincides with the name of the device, followed by an order to be executed, and it is done (thewirecutter.com). Specifically, a smart speaker only works if connected to Internet. Even if its action is rapid, the answer to user's commands is the result of a more complex process. Indeed, the smart speaker has to communicate with a server to encode all vocal commands, and to subsequently execute them (www.qualescegliere.it). So, what Siri did for phones, transforming the way they were used and perceived, Alexa has been doing for homes, opening to the rise of smart speakers (www.smartsheet.com). Specifically, these devices are "one of the fastest adopted technologies in US history. That's reflected in the very high overall satisfaction (96% globally) that consumers express for this technology" (Reshape to relevance, 2019)¹. To continue, the following are the main reasons why smart speakers are so highly adopted, at least in U.S. (www.thinkwithgoogle.com):

- 1. "They allow people to more easily multitask.
- 2. They enable people to do things faster than other devices.
- 3. They empower users to instantly get answers and information.
- 4. They make users daily routine easier"

Moreover, interesting news merge from the Google & Peerles' insights (2017). That is, smart speakers have literally conquered the core of people's houses, since they are placed where everyone can access them. This is because they should be always available for a quick answer. Based on the replies to the question "where people keep their voice-activated speakers", common room (e.g., living room) is at the first place with 62% of preferences, followed by bedroom (25%), and kitchen (22%) (www.thinkwithgoogle.com). To continue, 72% of smart speaker's owners claim that their devises become part of their "*daily routine*". It is meant as the possibility these devices give people to complete their ordinary tasks with less friction, such as checking commute times and setting reminders for things to buy later (www.thinkwithgoogle.com). Coherently, the picture below shows the frequency of smart speaker use over the day, stressing that these devices are incorporated into consumer's daily lives.

¹ Accenture Digital Consumer Survey

Tab 1 – Frequency of Smart Speaker Use



Source: Smart Speakers Consumer Adoption Report, Voicebot.ai, 2018.

Furthermore, the level of engagement people has with smart speakers should not be underestimated. Indeed, 41% of voice-activated speaker's owners perceive to interact with these devices as they were human, saying "please", "thank you" and even "sorry" (www.thinkwithgoogle.com). It is logic to say that this technology has fixed the bar of human relationship with technology very high. Concerning the spread of those devises, 18.8% of U.S. adults use smart speakers, with a higher prevalence among male (57.8%) rather than female (42.2%) usage (Voicebot.ai, 2018)². If the American market has been using smart speakers from years, the adoption rate of these devices is different in Italy. Based on Find's insights (2018), three out of four Italian consumers who have an internet access confirm that they would buy a smart speaker. Going deeper, nearly half of respondents (49%) would buy a smart speaker to listen to music or radio. Yet, 42% of respondents would use smart speakers to surf on the web, and another 40% would acquire them to obtain receipts while cooking. Interestingly, Italian consumers too associate online purchasing with smart speakers, especially to buy everyday household items or takeaway food (www.engage.it). According to the abovementioned report, nowadays vocal search in Italy is primary driven by smartphone (46%) and less from tablet (36%). Obviously, this huge difference between Italy and America's usage of smart speakers depends on different factors. Firstly, when a new technology comes out in a market, it needs time to be employed. In deeper, the Diffusion of Innovation Theory developed by E.M. Rogers in 1962 explains "how, over time, an idea or product spreads through a

² Smart Speaker Consumer Adoption Report

specific population or social system" (sphweb.bumc.bu.edu). The result of this diffusion is that people, as part of a social system, adopt a new idea or product. Here, adoption refers to cases in which a person does something differently than what he/she did previously. Moreover, the adoption of a new idea or product varies from person to person, because depends on her/his level of aptitude toward the innovation. That is to say that five established adopter categories are distinguished based on different consumers' adoption level. These categories are briefly described in the following lines just to better understand the phenomenon at hand (sphweb.bumc.bu.edu).

- 1. Innovators. People who want to be the first to try the innovation. They are willing to take risks with new ideas.
- 2. Early Adopters. They represent the opinion leaders and usually accept challenging innovations.
- 3. Early Majority. They rarely take risk: they prefer to adopt innovation once they know it works.
- 4. Late Majority. They adopt the innovation just after it has been tried by the majority of consumers.
- 5. Laggards. People very conservative and skeptical of change.



Figure 1 – Technology Adoption Life Cycle

Source: Voice Report, 2019

The figure above summarizes these concepts. Here is also represented "The Chasm" coined by Geoffrey Moor in 1992. The author stated that the most challenging phase for a new product's life cycle is crossing the chasm from early adopters into early majority. Indeed, while the former

accepts incomplete features and early stage technologies, the latter wants a product that practically represents an improvement (www.ignitionframework.com). Based on the Voice Report's outcome, 66% of American respondents who have used a smart speaker claimed to use it weekly and 19% use them daily. This 19% daily usage underlines the fact that this technology has crossed the chasm (Voice Report, 2019). "As smart speakers get smarter, learn more, and engage with customers differently it is expected owners to use them on a more regular basis" (Voice Report, 2019). Coming back to the different attitude toward smart speakers between Italy and US' market, these devices have been adopting from years in US, compared to their more recent usage in Italy. Based on what is previously said about the technology adoption life cycle, Italian's actual usage of smart speakers reflects this trend. Finally, these smart devices have been realized considering American as the target market. So, smart speakers suit better to American habits, while they should still come closer to Italian's one. For instance, American usually order online three different sizes of the same cloth and receive it at home. Once tried on, they give back the wrong sizes. This example just gives the idea of how American perceive online shopping as low-risky, and this behavior has been reflected on a prone smart speaker's usage. Nevertheless, the smart speaker's adoption depends also on companies' ability to generate a functional system around them. It means, the more these devices are integrated with daily and basic activities, the more they start generating value for consumers (www.engage.it). As the value is proven, consumers would trust smart speakers, keeping on using them, and giving companies a reason to invest on them. This is how smart speakers work in the American market, where consumers' experiences with these devices void any friction. Going ahead, an Accenture's research reveals that Italian consumers value more smart speakers for entertainment and online shopping rather than smartphones. To continue, 58% of Italian respondents would change their smartphone with a smart speaker able to do the same tasks (www.key4biz.it). It is to say that Italian value these devices, even if they are not completely embraced in Italian market. The next paragraphs are dedicated to smart speakers and the strategy followed to positioned them by the big players like Amazon and Google

1.2 Amazon vs Google for smart speakers' domain

Amazon reached nearly 72% market share in 2018 among U.S. adults, followed by Google with 18.4% (Voicebot.ai, 2018)³. The fierce battle for the voice technology between Amazon and Google seems to be won by the giant of Seattle right now. The Amazon's Echo smart speaker position in the U.S. is strong, as well as the one in UK and Germany. On the contrary, Google Home is

³ Smart Speaker Consumer Adoption Report, March 2018. This survey considered total installed users base or cumulative market share.

preferred in Canada, France and Australia (Voicebot.ai, 2018). The Amazon leading position within the smart speaker's market can be explained by several factors. Firstly, it is still benefitting from the first mover advantage. As it is known from the literature, being the first player in a market does not guarantee success. The curiosity around Amazon's case is that unlike Google, Apple or Microsoft, Amazon has not a desktop or mobile software platform of its own (staceyoniot.com). Theoretically, this could have been a disadvantage for Amazon in competing with Google. Instead, Alexa continues to be accessible to most mainstream customers. Secondly, Alexa device is easily usable by common people, and Amazon "opened up its Alexa Voice Services and Skills development earlier than similar offering from Apple, Google and Microsoft" (staceyoniot.com). In doing so, Amazon attracted developers sooner and made it easy to build Alexa Skills. Since the beginning in 2017, Amazon has had an advantage in the "winner-take-household scenario" for the following reasons (voicebot.ai):

- It had an installed user base ten times larger than Google Home's one.
- It had 100 times more voice application for Alexa which made it more attractive to many consumers.
- It fixed a lower price items compared to Google.
- It had dozens of third-party manufacturers using Alexa which can offer an endless experience across multiple devices.

Just a curious thing about Amazon Alexa. Its name comes from the library of Alexandria, because "*in antiquity it was a library that could answer any question and hosted all the collective knowledge of the world at the time*" (Rausch, 2018). It seems that Amazon came out with the best solution possible in the right moment. Actually, based on the study conducted by 360i⁴ (2018), "*Alexa is significantly worse than Google Assistant at answering questions and executing commands across various topics*" (qz.com). The table in the next page gives a visual evidence of how Google Assistant outperformers Alexa in every category of questions.

⁴ A New-York based digital marketing firm

Tab 2 – Google Assistant in comparison with Amazon's Alexa



Source: ATLAS

At this point, it can be argued that American preference toward Alexa goes over its technical performances (qz.com). Again, the main reason that can explain this phenomenon is Amazon's first-mover advantage. The charts below predict the smart speaker users in US divided by brand in 2018-2020 range.

Tab 3 – US Smart Speaker Users



Note: Individuals of any age who use a smart speaker at least once per month; smart speaker users are not mutually exclusive; there is overlap between groups

Source: eMarketer, 2018

Michael Dobbs, vice president of 360i, argued that "Amazon Echo was the first smart speaker of choice that started to enter people's home. Probably, the word of mouth gave them an advantage".

According to Dobbs' analysis, Amazon Echo guaranteed the basic functionalities that people expected from the device in the early stage of use. On the other hand, Google Assistant's speakers may go beyond what consumers were looking for. Hence, they were not encouraged to switch device (qz.com). Another reason in support of Amazon's leading position could be the price set for its devices. Indeed, an Amazon's 2nd generation Echo costs \$99 on Amazon, while Google Home costs \$129 at Best Buy. However, in the Smart Speaker Consumer Adoption Report by Voysis (2018), data show that Amazon Echo devices are marginally more preferred by upper income household. Conversely, households below the national average are more willing to buy a Google smart speaker. Thus, the price should not be the prominent factor which guides consumers' preferences. Rather, it could be explained by a sense of convenience consumers have in using the smart devices. Indeed, Android users are more tied to the Google ecosystem. In addition, same data revealed that Amazon Prime's members were upper income households in 2017 (Voicebot.ai, 2018). To continue, the research conducted by Voysis in 2018 shows that 63.6% of all voicecommerce comes from an Amazon Echo device, whereas Google Home follows with only the 32.7%. This is because of the Echo's larger installed base. Summarizing, the key pillars of Amazon's strategy are: "first mover status, broader developer support and development kits, range of devices at various prices and positive consumer sentiments" (staceyoniot.com). On the contrary, Google decided to focus on the capabilities of its smart speakers' software rather than paying attention to hardware, as Amazon did. As said before, the AI implemented by Google was better in interpreting voice commands and queries than Amazon's Alexa, but it was not enough to be preferred. However, Google is thinking to use its dominance in search to hit Amazon, even in its leading position in the smart speakers' market. Indeed, the main drawback that Google has identified is that people shop on Google but buy on Amazon (qz.com). In order to invert this trend, Google has partnered with the major brands (Target, Walmart, Costco etc.) in US which will be able to list their products on Google platforms, including the Shopping section of Search, the delivery service Google Express and Google Assistant. This programme named "Shopping Actions" would make easier to find products online, and take a cut of the resulting sales (qz.com). The list of available products would appear under the sponsored shopping result, without impacting the regular search results on Google. Obviously, retailers should pay Google for each purchase made from the list (qz.com). If on one hand Google signs partnership to answer to "more retail-based questions", on the other hand Amazon "is working to answer more information types of questions" (qz.com). In a near future, Dobbs predicts that both "smart speakers' capabilities will slowly converge", thus Amazon and Google would reach share parity. Looking at the global smart speaker shipments in Q1 2019, China "has overtaken US to become the largest smart speaker market, taking up 51% of *global market share*" (www.hdblog.it). Comparing the market share of Q1 in 2018, Amazon lost 5.6% market share along the same period of this year. Anyway, it is at the top, followed by Google, which lost nearly 20% of market share compared to last year (www.hdblog.it). That change is mostly given by an ever-increasing presence of Chinese smart speakers like Baidu, Alibaba and Xiaomi which gradually gains market share at the expense of the big players. After having presented the smart speakers, it is time to explain the core topic of this thesis.

2. The V-Commerce

As it is said in the previous paragraph, voice assistants have been in the market for several years before the spread of smart speakers. What has changed is the significant market penetration of the latter over 2018 and the voice potential's awareness, which has opened new horizons to the ecommerce. Thanks to the technological progress within the Artificial Intelligence, the smart speakers are leading a new purchasing experience based on a direct interaction with consumers. This relation can be named "V-commerce" as well as "Conversation Interface" (ecommercemag.it). In particular, V-commerce stands for voice/vocal commerce, practically meant as products/services' online purchases made by vocal commands using digital vocal assistants (www.confimprese.it). It can also be defined as voice/vocal-shopping. As stated in the Conversational Commerce's research conducted by Capgemini (2018), Conversational Commerce is "more than a new interface in an omni-channel world". Indeed, it offers services and experiences designed to meet needs and "engage consumers emotionally - anytime, anywhere" (Capgemini, 2018)⁵. These two terms can be used interchangeably, but V-Commerce one is going to be preferred along this work of thesis because of its effectiveness. This represents the last trend which is going to revolutionize the ecommerce as everyone knows so far. Actually, a Microsoft and Bing's research (2019)⁶ prefer to define V-Commerce as the evolution of E-Commerce. They expect the adoption of V-Commerce to be as the E-Commerce one, "slow and steady as consumers become more comfortable using voice for purchases" (Voice Report, 2019). The title of a Forbes's article "Conversational Commerce is where online shopping was 15 years ago" perfectly summarizes the current situation. Indeed, at the beginning of online shopping, consumers preferred to purchase low-risk items and those they were unlikely to make a mistake on, like replenishment. Once they become more familiar with this new shopping modality, they have started to commit on more expensive purchases on a broader ranging of products' categories. This behavior is repeating now with the V-Commerce (www.forbes.com). Taking this aspect into consideration, there is one more prominent evidence. The biggest challenge

⁵ Conversational Commerce

⁶ Voice Report

at hand is not the current usage of smart speakers, which will even increase with improved technologies. Rather, the degree to which people love interacting vocally with smart assistants is the real disruption. According to Voice Report (2019), the majority of American users (57%) prefer to speak to their digital assistant, while 34% still combine typing with speaking. Even if we are at the early stage, speaking will continue its rising, also because users would not have to review mistakes in their voice recordings. The following charts show how American consumers use their virtual assistants.

Tab 4 - Virtual Assistant's usage by American



Source: Connecting with Shoppers in the Age of Choice, Narvar, 2018

Not surprisingly, researching product is at the top of the list, since consumers prefer to be informed before committing a purchase. Specifically, vocal search is disrupting mobile search one. Going deeper, voice search is "a technology that allows users to search just using the voices instead of typing. It works through the ASR system (automatic speech recognition) that transforms voice signal into text" (seranking.com). It is estimated that "50% of all searches will be voice search by 2020 and voice shopping is estimated to reach \$40 Billion in U.S. by 2022" (www.invespocro.com). Another evidence comes from the Italian market, where 30% of consumers claim to regularly use some functions of vocal search or voice commands (www.wearesocial.com). Interestingly, 20% of respondents provide ratings or reviews with these devices, meaning that they find it easier to do rather than typing it on computers or smartphones. Shopping through a voice-enabled devise like Amazon Eco or Google Home is becoming the norm. Consumers do not use these smart devises just to research products or order groceries. They rely on them along the entire shopping journey (Conversational Commerce, 2018). Indeed, voice commerce does not only mean to buy things. "It is about returning things, exchanging things, tracking orders, reordering and improving the customer experience by answering questions whenever, wherever and however they are asked" (www.pymnts.com). Considering that consumers are creatures of habits, they find comfort in

regularity (www.lifewithoutpants.com). As a result, it is more likely that they interact with smart speakers asking for the completion of basic tasks, at least at the early stage of their use. What is next is that voice commerce has removed any friction from the customer experience (www.tradegecko.com). If online shopping has given consumers the possibility to buy 24 hours daily with just a few clicks, the voice search is eliminating those clicks, "speeding up the buying process tenfold" (www.tradegecko.com). To continue, important evidences emerge in the study conducted in America by Voysis on May 2018. Indeed, voice is considered an "enabler for the online shopping on the web and through mobile". More specifically, voice search is the gateway into voice shopping, since when "consumers start navigating by voice, it is convenient to continue that process all of the way to checkout and purchase confirmation" (Voysis). Furthermore, voice is making most of the day "shoppable" (sprintvalley.com). "Talking" has less limits than "tapping", and voice commerce "unlocks all the moments in the day where consumers cannot, or do not, hold a smartphone or sit in front of a computer" (sprintvalley.com). These all become shoppable moments thanks to voice commerce, since it can be always present when a consumer's desire arises. Moreover, the voice shopping seems to answer to industries' need of being connected with customers on an always-on basis, which reflects the One Moment Marketing. According to this current trend, there are four basic moments along which the customer journey is developed:

- *I want to know*. This is the exploratory phase of the customer journey, where consumers usually look for more information about a new product normally advertised on tv.
- *I want to go*. Potential consumers search for the closest shop, showing a higher willingness to buy the product.
- *I want to buy*. This is the phase in which the consumer knows what he/she wants. He/she is ready to buy, and both traditional and online stores should be here to be noticed, and hopefully chosen.
- *I want to do.* It can be considered the post-consumption phase, where consumers search more info for "how to use" the product bought. This can also be a tool through which satisfy consumers and make them more loyal.

Thinking about these moments, it can be argued that voice commerce could even reduce them. Since voice commerce speeds up the buying process, the "*I want to know*" and "*I want to do*" moments can be reduced to a single one. Considering that consumers would engage into a real conversation with smart speakers, it makes sense to ask any doubt before the purchasing act, as consumers were talking to a real shopping assistant. Furthermore, the "*I want to go*" moment can be suppressed, given the fact that products can be delivered at consumers' home. What has emerged is

that becomes crucial for companies to be present in the right moment to satisfy the right customer with the right content (www.argoserv.it), and voice commerce is going to exploit this opportunity thanks to its capabilities. Firstly, voice commerce guarantees a "*more human conversation with machines*" through the Natural Language Processing (NLP). This skill helps consumers perceiving the shopping experience more natural and personalized. For instance, who wants to place a "vocal" order through Alexa has just to say "*Alexa order*" and the name of the product he/she wants. Then, these are the following steps (rubygarage.org):

- the smart speaker checks the buying history and suggests products based on previous data;
- if such data do not show previous request like the current one, Alexa suggests a choice among Amazon products;
- Alexa reports the product price and asks the shopper if he/she wants to buy it. If the answer is "yes", Alexa proceeds with the order. Otherwise, Alexa suggests other options.

The service provided by the smart speaker here is twofold: support consumers defining the attributes that matter to them ("consultative commerce") and help them to acquire the solution (sprintvalley.com). The graph below summarizes Alexa Smart Speaker's tasks.



Figure 2 – What Alexa can answer to

Source: The psychology of voice commerce, 2018 (sprintvalley.com)

Secondly, a study conducted by Edison Research and NPR (2018) revealed that "*at least 22% of U.S. smart speakers owners have purchased something using the devices*". That is, one in five smart speaker owners use voice commerce. Yet, this study demonstrated that voice-based purchasing is even common among consumers who re-order previously purchased items and those who place orders for new items never purchased. The related statistics are the following:

Tab 5 - Orders and Re-orders Added to Carts



Source: Edison Research Smart Audio Report, 2018

Based on these findings, it can be stated that "voice commerce is bigger than expected". Thirdly, and most surprisingly, voice interface has been gradually changing the way consumers make decisions (sprintvalley.com). Consistent with the idea that consumers perceive the relation with smart speakers as more natural, "the effectiveness of trading information by speaking easily beats text-based messaging" (Invoca, 2018). In particular, voice commerce is responsible for a "zero friction impulse buying from home" (voicebot.ai). Indeed, there is evidence on the web that 22.6 seconds are enough to transform a thought into a completed transaction. Since this is a simple mathematical average obtained by summing the time spent to complete all the stages till purchasing, it cannot be considered a real marketing metric. Anyway, it gives the idea of how effectively voice commerce can work to satisfy consumers desires as soon as they rise. In addition to proper voicecommerce functionalities, there are some curious "tricks" used by companies to elicit impulsivebuying behavior. "From Amazon's Alexa and Apple's Siri to Microsoft Cortana and Google Assistant, they all have women's voice – and three of them have a female name" (www.businessinsider.com). When Amazon was looking for "the most pleasing sounding voice to bring into people's living rooms" (www.businessinsider.com), a woman's one was chosen. Indeed, Daniel Rausch, head of Amazon's "Smart Home" division, claimed that a woman's voice is more *"sympathetic and better received"* (www.businessinsider.com). This result is shared by various studies, according to which three important evidences emerge (www.businessinsider.com):

- 1. "People relate better to machines which are assigned any gender.
- 2. They impose stereotypes on machines depending on the gender of the voice.
- 3. Consumers perceive computers as helpful and caring when they are programmed with a woman's voice".

Summarizing, when machines vocally interact with consumers, it is better they are designed to have at least a woman's voice. This helps consumers in perceiving machines as more sympathetic, helpful and cordial. In turn, it affects customer's willingness to make a purchase, as well as their pre-post consumption satisfaction. Coming back to the abovementioned insights provided by Edison Research Smart Audio Report, voice is even used in the pre-purchase consideration phase of the buying process. It means that voice commerce is already part consumers' path-to-purchase. On the contrary, who is skeptical about the use of voice-commerce replies that smart speakers would only be suitable for re-ordering products. While interacting with a smart speaker to buy something, the device firstly suggests what is closer to consumer's past purchase or basket of preferences. This modus operandi guarantees consumer satisfaction, because allows consumers to save time and effort while searching for products. The main drawbacks come when consumers desire something completely new from their past purchases. If a consumer has to make a decision about an unfamiliar product category, he/she places a high workload on working memory. He/she would compare options, product descriptions, and so on and so forth. Since humans are visual creatures (www.seyens.com), they would prefer to look at the product, at least on an image posted online, to get more visual information. This behavior implies a channel switching if consumers are adopting a smart speaker without screen. Reasonably, the effectiveness of voice commerce could be reduced, and customer satisfaction along the path-to-purchase could decrease. This is the main reason which drives consumer's uncertainty toward this shopping modality, while related concerns will be discussed later on. To continue, the findings by Voysis and Voicebot.ai (2018) show that "more than one in five U.S. consumers have at least show interest in voice shopping, with 21.2% trying it out-mostly on mobile devices". In contrast with the meaningful growth of Alexa's rollout – partially due to discount on Echo devices during Amazon Prime Day - there is little evidence that consumers are using smart speakers to shop. According to data provided by eMarketer (2018), people commonly ask their smart speakers to listen to audio (79.8% of preferences), answer questions (73%), shop (37%), control smart home devices (34%), and buy (27%). That would be a problem for Amazon, whose primary business is commerce. Indeed, there is a discrepancy between the number of smart speaker buyers versus shoppers. In deeper, 10% of shoppers start their vocal search through smart speakers, but do not finalize purchasing act, leaving products on charts (qz.com). Nevertheless, "*as the number of smart speakers grows, maybe the number of sales they generate will, too*" (qz.com). It cannot be taken for granted, also because the experience voice-commerce provides consumers should be memorable in order to overcome their concerns. Under these lens, the following paragraphs are dedicated to profile the v-commerce's users, and to identify both how they can benefit from it and the main issues it can generate.

2.1 The profile of V-commerce's users

In the study entitled "*Conversational Commerce*"⁷ (2017) and conducted by Capgemini, users of voice assistants are profiled based on age, habits and preferences. Notably, the users of voice assistants are here meant as who have used voice assistants at least once in any form (via smartphone, smart speakers or any other device enabled with voice assistants – not smartphones). The result is that 82% of users judge voice assistants' utility based on whether these devices give them fast and accurate replies. Again, living rooms are the most common places where to use voice assistants with 69% of preferences. Interestingly, just 32% of users feel uncomfortable engaging in dialog with voice assistants around unfamiliar people, pointing out that there is a problem that limits the usage of these devices. To continue, the largest category of users falls within 33-45 years range. Exploring what consumers buy vocally online, another report has identified the following preferences.

⁷ This survey reached a sample of 2,558 users among US, UK, France and Germany.



Tab 6 - Traditional Online Shopping Modality vs Voice Shopping

Source: Voice Shopping Consumer Adoption Report, Voicebot.ai, 2018

Comparing the statistics, it is evident that the most frequently shopping categories purchased through voice are quite identical to the one bought through traditional online shopping (Voicebot.ai, 2018). Hence, voice shopping behavior reflects the one showed for online shopping via web or mobile. If consumers habit toward products are the same without any distinction between these two shopping modalities, it can be expected voice commerce's percentage of use to grow as consumers become more comfortable with it. Still based on Voicebot.ai's report (2018), the sample of consumers who shop online using voice is composed as follows: 31.72% have ordered something new, 23.35% have reordered a previous purchase, while 20.26% have done both reorders and orders. As happened at the beginning of online shopping's era, when consumers spent less because of uncertainty toward the new channel, with voice-commerce too 85% of voice purchases have accounted for \$100 or less (Voicebot.ai, 2018). Currently, voice is preferred for everyday transactions and it is not perceived as a channel for higher priced items (Voicebot.ai, 2018). This aptitude could be explained by several factors. Firstly, low-cost purchases are perceived as low-risky, and it is even a way to try a new shopping channel. Secondly, consumers seem to be more

discerning while looking for a higher priced item. That is, they prefer to watch at it on a screen rather relying on voice-first shopping.

2.2 Advantages and disadvantages from using voice-commerce

According to the research conducted by Voicebot.ai in collaboration with Voysis⁸, interviewed consumers claimed they like voice shopping because "it is hands free (27.3%), it enables them to multitask (20.7%) and it is faster to get answers and results (18.9%)". These advantages are quite identical to those identified for the smart speaker's usage, probably because these devices mainly work with voice. Hence, it makes sense for users to stress the same benefits. It can be argued that voice-commerce is going to change the way consumers shop by "minimizing friction including long lines, limited store hours and the timely checkout process on traditional websites" (Voice Report, 2019). To sum it up, it brings the same benefits internet did more than twenty years ago, but fixing them at a higher level of ease and convenience. By the side of disadvantages, 31.72% of consumers do not feel comfortable shopping by voice, 23.35% do not trust speaker with payment information, and 21.15% do not like that there is no screen. Moreover, one-third of consumers who tested voice commerce claim that it is "not comfortable", just due to lack of screen (www.forbes.com). The last point of dislike shows a lack of consumers' knowledge about the full breadth of voice shopping options, since they can be used through a mobile device equipped with a screen. In addition, Amazon has been already re-shaping the game with new smart speaker with a screen. Unfortunately, Amazon does not deliver the Echo Spot devise in Italy and suggests buyers to find another seller who ships internationally. Anyway, that would completely make "the voice interface much faster and easier to use for most people" (www.forbes.com). Effectively, the screen's employment could represent a boon to the integration of voice into the online shopping experience (www.forbes.com). Yet, "in a world that prizes time and fetishizes frictionless commerce, voice takes a step closer to a "think it-have it" world. Brands who can use voice to systematically reduce customer effort will create fresh advantage" (sprintvalley.com). Thus, the integrated use of these devices could boost voice commerce's popularity. Continuing on the drawback's side, privacy concern is the most important one that really affects the degree to which consumers adopt this new shopping modality. In the Voice Report (2019), "data security" and "passive listening" have been reported as main concerns. Since smart speakers should be always on to answer to users' questions, it means that they are listening to everything's happening at home, not just to the vocal commands directed to them. Furthermore, they have to be connected to a server in order to be functional. This server is an Amazon or Google's property, depending on which kind of smart speaker the consumer

⁸ Voice Shopping Consumer Adoption Report, June 2018

is using. Thus, all conversations can be potentially heard by Amazon or Google and can be used accordingly. On April 2019, the inquiry conducted by Bloomberg revealed that Amazon has used human analysts to listen to recorded conversations (www.repubblica.it). Amazon confirmed this practice but have limited it to a small sample of records in order to improve the final user's experience. Indeed, analysts were employed only when vocal commands where not clear and the algorithm was not able to correctly encode them. On one hand, "the increased value of smart speakers will also help to mitigate trust issues. As consumers become more familiar with the technology, they will become more comfortable" (Voice Report, 2019). On the other hand, it is even true that technological giants have to deserve user's trust. Nice to know is that consumers are willing to share non-PII data (personally identifiable information), like age and gender, for a reward as a discount. They are also likely to share detailed PII such as name, email, address, phone number etc. for automated purchasing (Voice Report, 2019). There are no doubts about the urgency to put control of privacy, transparency and security at the top of "to-do" list. Nevertheless, there is another drawback mainly considered by the skeptics. On one hand, voice-commerce will change the way consumers shop. On the other hand, it would change what consumers actually buy (qz.com). Unlike what consumers find in brick-and-mortar or online stores, in a voice-only environment the offering is limited to a couple of options at most (Voicebot.ai, 2018). As explained before, "voice assistants assume that consumer wants to repeat previous purchase, and present that option to him first" (qz.com). By doing so, always the same products will be exhibited, unless the consumer does ask for a different brand. This outcome is called "incidental loyalty". Thus, the more consumers are offered a few options from voice assistants, the less they can discover something new, at least with vocal functions. The biggest risk is that competitors go out of the business, creating monopolies or duopolies (qz.com). In addition, lots of items are not currently available with voice-shopping, so "early movers in providing voice access to shopping could gain a considerable advantage due to scarcity" (Voicebot.ai, 2018). Probably, voice commerce's usage is still far from where it has supposed to be, but there is significant growth margin in the near future. In the meantime, three tips are given to move voice from a niche position that satisfies replenishment, to a more principal one in supporting purchase decisions along the customer journey (sprintvalley.com):

• Insert forced choice questions which work as filters. On one hand, people are helped to define and prioritise the dimensions by which they will compare choices. On the other hand, the chat agent can rapidly provide personalized solutions to each customer. This strategy can perfectly work for low impact decision-making, for instance when consumers can be asked to prioritize price or rating, size or softness.

- Conduct an "*elimination by aspects*", where once consumer has identified the most important dimension, options that do not meet the specification are removed. This process leads consumer to the final choice, which is expected to be the best for him/her, when just one alternative is left.
- When the wishlist is ready, it can be asked to the buyer whether he wants to switch to another device, like his smartphone, tablet or TV screen where he can do a visual comparison. With the rise of smart speakers with screen, this step would be redundant.

In addition, consumers expect their mobile voice devise to be useful inside stores to "*find products, learn about discounts, compare products and pay for their purchases*" (www.forbes.com).

3. Voice-Commerce: some notable cases

After having considered the pros and cons from using the voice-commerce, some cases are reported in this chapter to underline the potential of this shopping modality, and to show how visionary companies have already started to exploit it. Among others, travel sector too is working to integrate voice-commerce within its marketing strategy. Indeed, Amazon is launching a new pilot project in India, where consumers would be able to buy fly tickets using voice through Alexa. This is a new attempt to penetrate within this sector, since the first with "Amazon Destination" failed in 2015, because of a strong competition among online travel agencies. This competition becomes even stronger considering that airlines companies try to become real travel agencies in order to generate more profit. For instance, when a user browses on Ryanair's site, it promotes an all-inclusive offering completes with hotel, fly ticket, car rental and insurance (www.ilsole24ore.com). On one hand, Indian users can track their fly in real-time and book their holidays thanks to the partnership Alexa did with Kayak. On the other hand, some Alexa's skills enable Italian users to obtain more information about baggage's dimensions which are asked to respect by the main airline companies operating in Italy. Nevertheless, Italian consumers cannot book fly tickets vocally yet. Despite of technological differences between these two countries, vocal-commerce grows and shows its potential. According to a very recent news, McDonald's have bought Apprente, a Californian company specialized in platforms for vocal conversations (ilfattoquotidiano.it). McDonald's is going to exploit the AI in order to offer faster, easier and more accurate orders both at Drive Thru and kiosks within fast foods. Furthermore, the technology developed by Apprente is able to recognize different languages and several accents, which is a great point for a multi-ethnic society like the American one. The logic behind vocal-commerce's adoption by McDonald's is the willingness to boost turnout within restaurants by speeding up the service (www.foodserviceweb.it). Given the fact the consumers' preferences with voice-commerce mirror those with e-commerce one, food and beverage retailers like Starbucks and Dunkin Donuts have started to implement this new shopping modality. The next two paragraphs are dedicated to them.

3.1 My Starbucks Barista

Starbucks takes part to the abovementioned range of companies. Even if everybody knows the business within which Starbucks operates, it is worth to go over its history and marketing strategy. Starbucks opened its first store in Seattle's Pike Place Market in 1971 by the idea of three partners who have met while they were students at the University of San Francisco. Now, Starbucks counts nearly 30,000 cafes across the globe. It has reached 80 billion dollars business over the last years and almost two-thirds of all coffee sold at cafes in the U.S. come from a Starbucks (medium.com). This worldwide success starts with Starbucks's distinct marketing strategy, which tends to differentiate itself from competitors based on the premium quality of its coffee. The quality-based differentiation turned to be a winning strategy, since was a pillar to build up the company's heritage, brand image and reputation. In addition to great taste of tea and coffee, a superior customer service contributed to shape Starbucks's reputation (notesmatic.com). Noteworthy, the coffee giant has position itself as a premium coffee brand, which also offers guests a "premium space to relax" in its well-designed environment (notesmatic.com). The target audience is composed by consumers belonging to upper and middle class, ranging from 25-60 years of age. Hence, Starbucks is able to offer them a break from a fast-moving lifestyle (notesmatic.com). Consistent with the willingness to offer a superordinate level of customer experience, the coffee giant has started to invest on the conversational commerce to bring retail a step further. As stated by the company's chief technology officer, Guerri Martin, "young people are currently use one finger and point and click to order, but the next generation won't even do that, and will use their voice instead". This is the reason why Starbucks officially debuted voice ordering on January 2017 through "My Starbucks Barista" on the Amazon Alexa platform. This shopping modality is an extension of Starbucks Mobile Order & Pay app, which already enables consumers to order and pay for their items before coming to the store. Obviously, the point of difference is that the former allows consumers to vocally place orders through the app. Indeed, a consumer can easily say "Alexa, order my Starbucks" using any Alexa device throughout the day. However, there are some basic functions to be fulfilled before finalizing the order. That is, users should be logged in the Starbucks app, where all their order and payment information should be saved. Mostly important, users must have placed at least one Starbucks order through the app to use Alexa skill (voicebot.ai). Before voice commerce's rise, Starbucks was "the largest and most robust mobile ecosystem of any retailer in the world" (stories.starbucks.com). This new shopping modality accounted for more than

7% of transactions in U.S in 2017, showing that Starbucks is able to grasp new opportunities in the market leading innovation. Specifically, the company expects to deliver an "unparalleled speed and convenience" with the voice-shopping, foremost to enhance customer loyalty and engagement (www.marketingweek.com). Unfortunately, there are not official results published in order to evaluate the effectiveness of voice-shopping within Starbucks's app. Undoubtedly, Starbucks Mobile Order & Pay app is considered an excellence because of its user-friendly design, engaging loyalty program, and integration with other platform and services (themanifest.com). If the integration is the real key for a business to have success, vocal-commerce has given users the opportunity to be equally treated as they were in a Starbucks' store. That is, the company has not lost neither its identity nor values. Rather, Starbucks has always taken in mind that the personal connection between its barista and customer should be mirrored in the digital ecosystem too (ixtenso.com). Going over, voice-shopping modality was even integrated in the Ford cars equipped with SYNCH3 to allow drivers ordering Starbucks' products through Amazon Alexa (www.geekwire.com). The wake-up command for the voice assistants is always the same. The voice-shopping modality within cars can perfectly work together with the GPS localization. Indeed, the driver can be easily conducted to the closest Starbucks's store after having placed the order vocally, without any distraction. Here the experience with no friction counts more. Lastly, Starbucks Coffee Korea was "the first retailer to leverage Samsung's Bixby to allow for end-to-end ordering and payment" (voicebot.ai). On October 2017, Samsung stated that Bixby had "10 million monthly active users many of whom are likely using the AI voice assistants in Korea" (voicebot.ai). This is an additional evidence of how Starbucks pays attention to novelty in order to deliver a superior service to its customers. With Bixby, the path to purchase within My Starbucks Reward is similar to the one followed within My Starbucks Barista. Thus, Korean Bixby users who are not registered on the My Starbucks Rewards program are firstly enrolled to continue placing their order (voicebot.ai)

3.2 Dunkin' Donuts on Google Assistant and Amazon Alexa

Dunkin' Donuts was born as a single restaurant placed in Massachusetts in 1950. Its mission has always been "to serve guests high-quality coffee and donuts with fast and friendly service at an affordable price" (www.forbes.com). Starbucks appears among its direct competitors, but Dunkin' Donuts has positioned itself at a lower price than the former (www.coursehero.com). Moreover, the target market of the company is "working people of all ages who are looking for a pay as you go experience" (www.coursehero.com). As it is seen before with Starbucks's case, Dunkin' Donuts too enabled its consumers to place their orders vocally. On March 2018, Google announced a

partnership with Dunkin' Donuts. More specifically, Dunkin' Donuts reward members cannot rely on a company's app to order online. Rather, they can link their account to Google Assistant on smartphone and decide whether to speak or type to order. Consumers can only re-order something they previously purchased right now. However, this experience with Google Assistant cannot be completely considered a "voice-only shopping", but a "voice-assisted process". Indeed, consumers still have to visually confirm the store they are ordering from (Voicebot.ai, 2018). On the contrary, few months later the company adopted a new solution. That is, Dunkin' Donuts announced the Onthe-Go Mobile Ordering with Alexa on April 2018. While consumer is using the Dunkin' Mobile App, he/she can both order and decide the store where to pick the products up just using voice (news.dunkindonuts.com). The reasons why this innovation is important are three-fold:

- Dunkin's Donuts had to face competitors' actions like the Starbucks' one. The company had to invest on technology in order not to leave Starbucks as the only player within this new trend of voice-commerce.
- Voice-commerce is going to be the future of retail, and Dunkin' Donuts is "always looking for ways to fit seamlessly into guests' daily routines and provide new levels of convenience and speed" (Stephanie Meltzer-Paul, Vice president, Digital and Loyalty Marketing for Dunkin's Donuts U.S.).
- As stated by the company's Vice president, the integration with Amazon Alexa was crucial to serve better the members of DD Perks program. Since this program is "one of the fastest growing loyal programs in the quick service restaurant industry, with nearly 8 million members" (news.dunkindonuts.com), voice commerce represents a worthy occasion to amaze consumers with a superior service level.

4. Shaping the future with V-Commerce

The vocal-commerce has been conceived as a new channel which allows consumers to shop with no stress in the comfort of their houses. Even if it is more associated with smart speaker's usage, data available until now sustain that voice on smartphone has a higher reach. Still considering American consumers in a research conducted by Voysis and Voicebot.ai (2018), nearly 80% of all consumers own smartphone, and 62% of them have tried a voice assistant. Conversely, only the 21.6% of consumers (almost 54.4 million people) own a smart speaker, but almost all of them have used a voice assistant, without which smart speaker would not be functional. Hence, it can be argued that voice is widely used on smartphones rather than smart speaker. However, it should be considered as a logical consequence to the higher level of access for the latter. Indeed, the speed with which voice

commerce is adopted will be limited by the speed of innovation in "audio user interfaces" (sprintvalley.com). Moreover, the same report evidences "a correlation between smart speaker ownership and a higher likelihood to use voice on smartphones". 65% of smart speaker owners use them at least weekly and 40% at least daily. Notably, the monthly, weekly and daily users of voice assistants on smartphones are respectively 79%, 68% and 74%. It means that as smart speaker's owners increase, the voice's usage is more likely to be driven through smartphones. A Gartner's research (2018) states that 75% of American households will have at least one smart speaker by 2020. Assuming that this forecast is correct, voice-commerce could grow accordingly. Anyway, smartphones and smart speakers can even co-exist for the purpose of voice-commerce. That is, while waiting for an empowerment of smart speakers, smartphone equipped with digital assistants can educate consumers to the use of voice to shop. Yet, Voysis's report states that nearly half of interviewed consumers would be willing to use a voice assistant while shopping in store. Indeed, it could support them in locating a product, learning about discounts or deals, comparing products, getting help and even allow consumers to do the self checkout. Even if technology is shaping new digital relationship among brands and consumers, the future is designed through omnichannel strategies. They are planned in order to offer consumers an endless journey with their preferred brands, with no distinction between physical or digital environment. Moreover, "in-store engagement is a key factor for retailers looking to enhance shopping experience, avoid showrooming and make it easier for shopper to buy" (Voysis, 2018). So, voice assistants within smart speakers can offer a superior customer experience within stores. As an effect, it is expected consumers value more the use of voice to shop. Thus, giving consumer the evidence that voice works well in-store, they would become more willing to test voice-commerce at home. "Technologies changes quickly, people do not" (Voysis, 2018). That is to say that consumers' behavior and fears are always the same. It is up to retailers assist consumers in building trust toward voice-commerce in order to be remembered, and hopefully preferred even when consumers place their order at home. To sum it up, voice-commerce brings undeniable benefits to the final user, like "efficiency and speed of access, people's need of control, accuracy and multitasking" (eMarketers, $2018)^9$. The experience provided to the final consumer should be at the core of this new trend. In particular, smart speakers enable consumers to engage in a real conversation with them. In turns, the voice-commerce is expected to implement selling opportunities through smart devices, with the final aim to make consumers more loyal (ecommercemag.it). If a memorable shopping experience is crucial to be preferred over competitors, voice-commerce seems to be a key to offer this kind of opportunity from which both companies and consumers would benefit. Indeed, consumers are

⁹ Conversational Commerce Roundup

willing to spend 5% more on average in change of positive experiences with digital assistants and voice-shopping (www.criteo.com). Since talking is a natural way to communicate, consumers' interest toward voice-commerce is not surprising. Rather, it can be an occasion to be exploited by brands in order to build strong and valuable relations with consumers (www.criteo.com). However, voice-commerce implies new challenges for both retailers and companies. The most important one is related to privacy concerns, since "36% of people are worried that smart speakers are always listening" (Statista, 2017). Perhaps, companies should release informative campaign to explain in detail how consumers' data are treated, and how privacy is secured. Secondly, a great investment is asked to empower the current Natural Language Processing. This is part of the artificial intelligence that allows smart speakers, and all other virtual assistants, to interact with humans (seranking.com). "Consumers communicate with virtual assistants naturally, as they would speak to a real person" (rubygarage.org). Indeed, the smart speaker's ability to understand different dialects and to give some context is at the top of preferences for consumers. It is followed by devices' ability to give relevant and personalized recommendations (www.criteo.com). Coherently, businesses should adapt their SEO strategies for voice search. "When using voice search, customers ask questions in a natural way" (rubygarage.org). The query will become even longer, till achieving seven keywords per search (www.vidiemme.it). Furthermore, who uses vocal search is distinguished from those who adopts a browser in terms of time of the day to search and kind of information asked for. Yet, the former is more willing to ask daily the same information at the same time. As the Vice President of Google Assistant explained, weather forecasting is asked in the morning, followed by recommendation about restaurants at launch time. Going on, music playlist is asked once users came back home, and alarm clock is planned before going to bed (www.vidiemme.it). These all are micro-moments which companies can exploit to design targeted marketing strategies.

Chapter two: Hedonic and utilitarian motives to shop online

1. Theoretical framework

Shopping can be defined as "a series of behaviors of acquiring the product or as the value of the shopping process" (Pui-Lai to, Liao, Lin, 2007). Some of the most fascinating studies about consumers' purchase behavior have been related to their inner intentions whether to buy or not a specific product/service, defining the so-called motivations to purchase. For many decades, consumer buying behavior has been interpreted as fully rational and goal oriented (Howard and Sheth, 1969). Based on this theory, consumers have been said to shop in order to maximize their utility, and purchasing has been meant as a problem-solving task in which consumers "move through

a series of logical steps" (Holbrook & Hirschman, 1982). This consciousness has represented a milestone of the theory for many years and has been thought as being the only significant way to interpret consumers buying behavior. Just recently, the literature has recognized the double nature of consumers buying decision making, composed by an "economic" orientation as well as by a "recreational" one (Bellenger and Korgaonkar, 1980; Korgaonkar, 1981). Among other researchers, Tauber (1972) was one of the first to study those motivations behind shopping behavior, claiming that consumers shop for both the utilitarian value of products and for the satisfaction derived from the shopping process itself (Pui-Lai to, Liao, Lin, 2007). At this point, the definition of these two shopping motives becomes essential to proceed further.

Utilitarian motivation to shop:

The utilitarian motivation to shop "reflects the acquisition of products and/or information in an efficient manner and can be viewed as reflecting a more task-oriented, cognitive, and nonemotional outcome of shopping" (Babin et at., 1994; Holbrook and Hirschman, 1982). This term is used to define the intrinsic motivation which efficiently and rationally leads to the final purchase (Scarpi, 2005). Indeed, goal-focused shoppers are "transaction oriented and desire to purchase what they want quickly and without distraction" (Wolfingarger, Gilly, 2001). Since the utilitarian shopping is seen as a real "work", the relative outcome is defined accordingly with terms like "success" and "accomplishment" (Thompson, Locander, Pollio, 1990). People with stronger utilitarian values use products "as a tool to reach high-level purposes in their life and pay less attention to pleasure and entertaining aspects of the products" (Feinberger et al., 1992).

Hedonic motivation to shop:

The hedonic motivation to shop "reflects the value received from the multisensory, fantasy and emotive aspects of the shopping experience" (Babin et at., 1994; Holbrook and Hirschman, 1982); it represents the epicurean side of shopping (Sherry, 1990), where the experiential side of it overcomes the task completion (Scarpi, 2005). "Increased arousal, heightened involvement, perceived freedom, fantasy fulfilment, and escapism all may indicate a valuable shopping experience" (Bloch and Richins, 1983; Hirschamn, 1983) This experiential behaviour elicits higher playfulness in consumers, which generates more positive mood, greater shopping satisfaction, and higher likelihood of impulse purchasing in comparison to utilitarian motivation to shop (Hoffman, Novak, 1996).

These are just a few of several definitions available in literature: although many authors have written about the abovementioned motivations to purchase, they agree in summing that a) consumers driven

by utilitarian motivations start their shopping journey for a mission, and "the acquired benefit depends on whether the mission is completed or not" (Batra and Athola, 1991; Sherry et al., 1993; Babin et al., 1994), while b) the hedonic motivation is "the study of shopping enjoyment" (Hirschman and Hoolbrook, 1982). Originally, the utilitarian and hedonic dimensions were considered to be merely features of products (Youn et al., 2001), without considering several related aspects, like consumer interaction with those products and distribution channels (Babin et al. 1994; Wakefield and Baker 1998; Van Trip et al. 1996, Beatty and Ferrel 1998; Chandon et al. 2000), which all together are currently adopted in literature. The importance of the consumer-product relation is underlined by Batra & Athola's claim, according to which "the satisfaction of consumption does not come just from the product purchased, but also the personal emotional rewards during the shopping process". Mostly important for the theory at hand is the understanding that goal-seeking and pleasure-oriented behaviours are "complementary and intertwined" (Babin et al., 1994): it means these are not "necessarily two ends of a one-dimensional scale" (Voss, Spangenberg and Grohmann, 2003) since the same product can be high or low in either hedonic or utilitarian attributes (Crowley, Spangenberg, and Hughes 1992), so they merit to be taken into account together to reach a deeper comprehension of buying process (Scarpi, 2005). Another reason in support of this is the fact that a hedonic product can have functional attribute, and vice versa, as the result of the "relative salience of the sensory and functional attributes of a product which defines its classification as hedonic or utilitarian" (Chernev, 2004; Batra & Athola 1991). Moreover, there is not a strict distinction among hedonic and utilitarian products (except for few cases), since the hedonic motivation is more personal compared to the objective utilitarian one, and for this reason these two are more difficult to generalize or even predict among different consumers. In addition, there is another way to refer to affective and cognitive preferences toward products, respectively using the terms "wants" and "shoulds" (Shiv and Fedorikhin, 2000; Wertenbroch, 1998), so items that show more hedonic value are likely to be subject to want preferences; on the contrary, those items which are higher on utilitarian value are likely to reflect should preferences. The "wants are more affectively and experientially appealing than the should, as hedonic alternatives are more affectively and experientially appealing than utilitarian ones" (Bazerman, Tenbrunsel, Wade-Benzoni, 1998). The analysis carried out by Dhar and Wertenbroch (2000) showed how the trade-off between should and wants still depends on the choice task. Specifically, when consumers have to decide whether to acquire or forfeit a product, in the first case utilitarian features are more salient, while in the second hedonic ones are prevalent. However, the hedonic versus the utilitarian characteristics of products are not the core of the study at hand, neither the focus on their acquisition or forfeiture: the main objective is to study consumer's motivations to shop online, keeping the basic

distinction between hedonic and utilitarian motivations while adding a point of novelty in the research model.

The motivations underlying consumers' preferences toward online or offline shopping environment are different. Firstly, convenience and variety seeking are found to be significant factor which lead consumers to buy in the online context. In particular, variety seeking refers to the ease of comparison among more offerings online (Rohm, Swaminathan, 2004). Convenience will be discussed in the next page, when utilitarian dimension to purchase online are presented. Conversely, time saving and recreational motives belong to motivations to purchase offline. The former reflects the trade-off of buying online: if on one hand internet retailers are reducing delivery time, on the other hand consumers with higher degree of immediate possession of products prefer to shop in traditional stores (Rohm, Swaminathan, 2004). For what concern recreational motives, it is quite normal that consumer's desire for social contacts is easily satisfied offline (Rohm, Swaminathan, 2004).

Traditionally, the literature has been focused more on the offline consumer behaviour, where shopping was recognized to provide both hedonic and utilitarian value. As the time goes, "with the rapid increase of the online shopping population, the total amount of online consumption has grown dramatically" (Pui-Lai To, E-Ping Sung, 2014), and the online consumer behavior has become worth to study. So, the initial and broader definition of shopping should be led into a more specific one, that is the shopping online, defined as "a form of electronic devise for purchasing without any intermediary services" (Gupta, 2013). Anyway, the same distinction between hedonic and utilitarian motives to shop merits to be applied in the online consumer behaviour. Thus, if on one hand consumers perceive shopping as a mean to pursue happiness, fantasy, enjoyable experiences in both the offline and online environment (Pui-Lai To, E-Ping Sung, 2014), on the other hand the different hedonic/utilitarian tendencies within consumers tend to exhibit a different shopping behavior depending on whether consumer is buying in an online or offline store. More specifically, those consumers who show a hedonic shopping behavior offline seem to prefer purchasing in the same store, spending more money to buy a greater number of products and more expensive items, also indulging in extra purchases commonly associated to impulse buying (Scarpi, 2005). On the contrary, task-oriented consumers tend to spend less in terms of quantity and amount of purchases; their loyalty to the store is even weaker as their willingness to indulge into impulsive buying behaviour (Scarpi, 2005). According to Grossbart et al. (1990), Turley and Milliman (2000), Lam and Yin (2001), Childrens et al. (2001), consumers are strongly affected by the stimuli they are exposed to at the point of sale, and different combinations of such environmental stimuli can influence the degree to which consumers exhibit a more hedonic or a more utilitarian behavior during the shopping exposition. Since the hedonic perspective includes emotive arousal accompanying a consumption act (Holbrook & Hirschman, 1982), the authors claimed that the hedonic arousal mainly takes place when the consumer is using the product. Moreover, when consumers place their order online, the usage of product and the relative hedonic arousal take place just after the product is delivered, because online shopping environment does not offer the buyer the opportunity to touch, smell or feel the product while buying (Childers et al., 2001). These findings suggest that consumers with a high hedonic shopping motive are willing to go for store shopping due to a more direct interaction with products. Conversely, a buyer driven by utilitarian motives is likely to go for non-store shopping as it provides convenience of saving time and effort (Forsythe et al., 2006). Additionally, the study conducted by Wolfinbarger and Gilly (2001) revealed that goaloriented consumers shop online as the result of a planned purchase. Moreover, they do not recognize the act to purchase online as "shopping", rather as "buying", and this confirms their straightforward way to behave. To continue, the ten online pillars of shopping values listed by Keeney (1999) were almost all utilitarian ones, excluding "enhancing the shopping pleasure". Thus, it is possible to argue that previous researchers agree in considering utilitarian values as the main reason why consumers shop online. Taking all these aspects into consideration, should we claim that consumers' willingness to buy in an online store is primarily driven by utilitarian motives or could we argue that hedonic ones still play a role? In the early stages of the study about consumer's motivations to shop online, just utilitarian ones were considered worth to analyse. Several authors have written about this topic as many utilitarian dimensions were found to be significant predictors of online shopping. In particular, convenience dimension is the most frequent among different findings. It is mentioned by Glosh (1998), who identified convenience, personalization and interaction as the way to make Internet channel more relevant. Then, convenience is recognized as the "primary motivator of shopping" (Swaminathan et al., 1999). To continue, Donthu and Garcia (1999) listed convenience and variety as "key features that a web site should offer to internet shoppers". Coming to more recent findings, Bridges and Florsheim (2008) think that online stores should be designed to support consumers in achieving utilitarian ends, because they proved that "evendors who promote the utilitarian values of the websites achieve greater levels of satisfaction among users and greater volumes of sales". Thus, previous literature agrees in considering the effectiveness of utilitarian dimensions over hedonic ones online, and eleven categories of utilitarian motivations in online consumption are defined in the following list:

• **Desire for control** refers to "the degree to which people can manipulate the length of time, the content, and the sequence of the information presented" (Bezjian-Avery et al.,1998, Ariely, 2000). When consumers perceive they have control over the environment (the browsing environment, in this case), they are more "*likely to bring enthusiasm, interest and sustained attention to the task in question*" (Kamis et al., 2010). This higher degree of control can enhance consumers' level of authority and status in the consumption process (To et al., 2007), which in turn is crucial to manage risks related to online shopping (Cheshire et at., 2010). Summarizing, higher degree of control push consumers to greater decision making in the online shopping process and to a more positive evaluation of the outcomes. Conversely, lower level of perceived control may lead to an abandonment of the online shopping process (Kamis et al., 2010).

- Autonomy is psychologically defined as the "the behavioural tendency which begins and regulates itself according to the internal interest of the individual" (Deci and Ryan, 1985). This is linked to the willingness online consumers have in finding themselves "in situations which favours their freedom of choice" (Lopez, Garcia, Gazquez-Abad, Rodriguez-Ardura, 2014). It means that, since it is possible to stop and/or recover online the purchase decision process easily without pressure from shop assistants or sellers, consumers result to perceive greater freedom (Wolfinbarger and Gilly, 2001). In addition, this perception is enhanced by no physical, spatial and time limitations online shops offer because of their nature (Trocchia and Janda, 2000).
- Shopping convenience/accessibility/efficiency. It basically refers to the online shopping as a way to save time and energy: firstly, consumers do not need to be physically present in the store to shop and, secondly, it means that they avoid taking the car and related frustrated actions (Children et al., 2001). Furthermore, the online shopping reveals to be more efficient compared to traditional one, primarily when consumers already know their products of interest (Hung, 2011).
- Broad selection and availability/merchandise assortment motive. This dimension reflects the principles of economy of information, since the utility consumers perceive increases "as the number of purchase alternative (brands, products and retailers) to which they have easy access increases" (Hauser and Wernerfelt, 1990; Ratchfords, 1980; Stigler, 1961). On-line stores can sustain larger assortments because they are not constrained by inventory or storage, as physical stores do (Alba et al., 1997). On the contrary, in online context can merge the problem of information paradox (Chen et al., 2009), the reason why commercial websites now provide recommendation system to display an adequate number of products and items of interest to consumers.
- Good value for money/economic utility. Consumers go online to search for competitive prices as well as to take advantage of promotions and sales. Given the particular

environment of online-stores, which are free of fixed costs (e.g., storefront rental and personnel), consumers are able to find the best prices (Strader and Shaw, 1999) and consider simultaneously all information available online to continue on saving money for the next purchase. Notably, good deals and discounts exploited online lead consumers to a greater satisfaction in fulfilling a personal achievement (Arnold and Reynolds, 2003; Parson, 2002; To et al., 2007).

- Availability of information relates to the possibility consumers have to gather all significant information to finalize their buying decision process. It has been already argued that online world provides a huge amount of information compared to the limited one made available by physical establishment (Wolfinbarger and Gilly, 2001).
- **Customized product or service/co-production.** As online stores provide the opportunity to customized products, consumers are more willing to shop and consume online (Srinivasan et al., 2002; Wind and Rangaswamy, 2001).
- Ease of payment matches consumers' willingness to have a wide method of payment available which also reflects their preferences (Lopez et al., 2014). This point represents a big concern for consumers related to both risk perception in online payment and relative trust in e-commerce.
- Home environment. Since consumers prefer to shop in an enjoyable and relaxed environment, Lopez et al. (2014) have thought about the home environment which perfectly embodies consumers' needs. Even if the intensive use of mobile phones may lower the effectiveness of this dimension toward consumers' online behaviour, it is even true that those devises can be used at home. Obviously, the result of the in-home shopping is a more accurate and exhaustive product search, carried out with more speed and convenience (Alba et al., 1997). These are recognized as the main advantages to shop from home, also among elderly people who start shopping online more frequently (Kuo et al., 2011, 2012).
- Lack of sociability seems to be a perceived benefit in online shopping, since consumers do not want to be bothered while looking at products of interest (Joerding and Meissner, 1998). They seldom want help, but they expect it to "*be at their request and to be responsive to their individual needs*" (Wolfinbarger, Gilly, 2001). Online stores in this sense make consumers free from salespeople, companions or strangers in the nearby (Wolfinbarger and Gilly, 2001)
- Anonymity is the last dimension studied which reflects consumers' preferences to control the transactional information shared with sellers online. Even if this concern is also common to physical realities, online consumers would benefit from keeping their anonymity
(Hoffman et al., 1998, 1999; Korgaonkar and Wholin, 1999), in order to avoid marketing and CRM activities from companies.

Despite the huge number of utilitarian dimensions provided to shop online, the studies of Holbrook and Hirschman's (1982) confirm that the online environment still host both utilitarianism and hedonism. In fact, Kim and Shim (2002) affirm that consumers online look for gathering information and purchasing products as well as for needs of experience and emotion. This finding is consistent with the idea that online shoppers are similar to offline ones, and they seek both utilitarian and hedonic value. Regarding hedonic (non-functional) dimension of online shopping, diversion, self-gratification, and learning about new trends are proved to play a strong role. Indeed, the former well reflects the Internet advantage to deliver information, while the other two refer, respectively, to quick and easy access to shop (Parson, 2002). According to Arnolds & Reynolds (2003), there are six hedonic motivations: adventure, social, value, idea, authority and status. Anyway, based on a study conducted by Pui-Lai To, Chechen Liao, Tzu-Hua Lin (2007), just tree (adventure, authority and status) out of above six motivations really explain and influence the hedonic shopping behavior online. Respectively, "adventure refers to shopping for exploration" (Pui-Lai To, E-Ping Sung, 2014), while authority and status refer to the possibility consumer has to "decide what products to see, when to place an order, and when to receive delivery when shopping online" (Parson, 2002). Furthermore, based on a research conducted by Pui-Lai To, E-Ping Sung (2014), consumers value the chance of being able to learn things and to be competitive achievers online. The following table can be useful to summarize the concepts which have been raised until now.

	Important Factors	Outcome Desired
Goal-Directed Shopping	 Accessibility/Convenience Selection Information Availability Lack of Sociality 	 Freedom, Control Commitment to Goal, Not Experience
Experiential Shopping	 Involvement with Product Class Positive Sociality Positive Surprise Bargain Hunting 	 Fun Commitment to Experience as Important or More Important than Goal

Table 1. Goal-Oriented and Experiential Factors and Outcomes of Online Shopping

Source: Shopping Online for Freedom, Control, and Fun, pag.4¹⁰

Once having considered the specificities of both sides (utilitarianism and hedonism), we should investigate about their relative impact and importance on consumers' decision to shop online, here conceptualized as consumer's willingness to buy online. Based on Pui-Lai To, Chechen Liao, Tzu-Hua Lin's findings (2007), it is proven that utilitarian motivation has more influence on search intention and purchase intention than hedonic motivation in the Internet environment. It means that consumers browsing and shopping online tend to be more goal-oriented and motivated by utilitarian purposes. Furthermore, another study conducted by Overby and Lee (2006) found that the utilitarian value plays a stronger role than hedonic one in the formation of preference for the Internet retail. However, it seems that previous literature does not agree with the idea that utilitarian motivation have a dominant role over hedonic one in the online shopping behavior, and it emerges through Kim & Eastin's (2011) research. Indeed, if it is true that utilitarian purposes guide the online search intention, here what rises is that hedonic shopping motivation is positively related to exploratory information seeking online. This is congruent with the notion that hedonic consumers prefer to explore various sites and seek information regularly, and it is logically supported by the fact that "an information search task is motivated by a desire to fulfil curiosity or experience fun and pleasure" (Baumgartner and Steenkamp, 1996). In addition, data demonstrated that "the frequent and longer browsing may also contribute to future purchase decisions" (Kim & Eastin, 2011). Interestingly, Moe's findings (2003) evidence that both goal-oriented and exploration-oriented searching behaviour would affect purchase intention: indeed, goal-oriented consumers would generate purchase intention after having gathered the information they need, whilst exploration oriented-

¹⁰ Table 1: Shopping Online for Freedom, Control, and Fun (Wolfinbargher, Gilly, 2001)

consumers would have impulsive purchasing behaviour once being exposed to an emotional stimulus. Furthermore, researchers have demonstrated that hedonic consumers tend to engage in impulse buying (Babin at al., 1994; Hausman, 2000; Wolfinbarger and Gilly 2001; Arnold and Reynolds, 2003) and, since the online stores are not constrained neither by opening and closing times, physical locations, or product availability, the Web may lead to impulsive purchases (LaRose, 2001). In conclusion, existing literature confirms that both utilitarian and hedonic motivations to shop online are the antecedents of consumer's willingness to buy in online stores. This statement is crucial to build on the research model of this study and it will be taken into account later on, when the final model will be defined.

1.1 Typologies of online consumers

After having described the different motivations behind shopping behaviour online, now is time to study deeper online consumers, their preferences and attitudes toward the online store environment. Indeed, not only the intrinsic motivation to shop online, but also the totality of consumers' approach toward e-commerce is essential to both retailers and industries to enhance the customer experience online, which in turn should be translated into a final purchase decision. According to Technowledge's (1999) finding, convenience, unique merchandise and competitive prices have been mentioned as the top reasons to shop online. Concerning the former, Darian (1987) found five main types of convenience which are valued more by in-home shoppers:

- *"reduction in shopping time;*
- *timing flexibility;*
- saving of physical effort;
- saving of aggravation;
- the opportunity to engage in impulse buying".

Since Internet shopping is a kind of in-home shopping, it is possible to argue that Internet shoppers too would benefit from this set of advantages (Kau, Tang, Ghose, 2006). With regards to on-line shoppers, these were defined as households having an at home internet connection (Swinyard, Smith, 2003). Nowadays this definition could be defined outdated because almost everyone has an Internet connection at home or, at least, a mobile phone to connect with Wi-Fi outside home. So, the main reason why consumers buy or not online is not directly related to the availability of Internet. To continue, it seems equally important to examine different typologies of online shoppers, and the study made by Media Matrix and McKinsey (Hamilton, 2000) can help us in this purpose classifying them into the following six categories:

- The *simplifiers*, who are impatient and lucrative; they spend seven hours a month online accounting for half of all Internet transactions;
- The *surfers* spend thirty-two percent of their time online, where they look at four times more pages than other users;
- The *connectors*, who rarely shop online, since they are new to Internet and they highly preferred brick-and-mortal brands they know;
- *Bargain shoppers* are those consumers who like finding good deals;
- The *routine followers* who mostly use Internet to get informed;
- The *sportsters* are sport lovers and they look for entertainment sites.

The former list of consumers online' categories is further improved with the six clusters analysis made by Wedel and Kamakura (2000). In particular, these clusters are interesting because match the shopping and the information gathering characteristics with the relative age of each group, giving us more detailed information. Clusters are divided into:

- *On-off shopper*. They regularly use search engine, surf on the Internet, collect online information in order to find the best deal, but they still prefer to shop offline. A person within this segment is equally likely to be a male or female, single and his/her age is in the range of 15-24 years.
- *Comparison shopper*. They usually compare product features, prices and brands before making purchases, looking also for promotional offers. Demographically, they are between 25-29 years old, females and males are equally distributed.
- *Traditional shopper*. They prefer buying offline, they do not serf Internet, neither to look out for bargains. This cluster is mainly composed by shoppers between 40 and 49 years.
- *Dual shopper*. They use Internet to gather information, among which the one related to brands and product features to make a comparison. They engage in both online and offline shopping. This group too is made by single, male and younger people between 15-24 years.
- *E-Laggard*. Although this group of consumers has the lowest level of Internet navigation expertise after traditional shopper, it constitutes the highest percentage of people buying more frequently. It is principally made by females over 35 years old.
- *Information surfer*. Consumers in this cluster have a good navigation expertise with a previous online purchase experience. Most of them are married and over 24 years.

Proceeding further, other interesting researches classify consumers attitudes toward the online shopping based on whether they belong to Generation X, Generation Y or Baby Boomers, because

"age has proven to be a determining factor in user acceptance of online shopping and consumer intention to shop" (Khare et al., 2012; Dholakia and Uusitalo, 2002). A definition of these three groups is provided: Baby Boomers are born between 1946-1964; Generation X is comprised between 1965 and 1980; Generation Y is said to be born between 1981-2000 (Dhanapal, Vashu, Subramaniam, 2015). Each group age has its specific peculiarities, in particular, Generation Y is the most active one online, looking for last trends availability, sale promotions, and they spend considerably part of time-sharing items with family members and relatives. Their consumption represents a way to exhibit wealth and purchasing power, oriented to a status-seeking (Eastman and Liu, 2012: O'cass &Frost, 2002). Moreover, they are more likely to buy online after having conducted prior research on what they are interested in. As a point of distinction, they make decisions faster, with less deliberation compared to other generations, and they adopt new opportunities faster (Parmanet, 2009). In addition, they indulge more in impulsive purchases than Generation X consumers. Conversely, Generation X consumers look for customer convenience, community relations and branding (Williams, 2005), and they are risk averse (Reisenwitz and Iyer, 2009). Regarding the latter characteristic, the risk of credit card transaction is shared among all these three groups of consumers (Dhanapal, Vashu, Subramaniam, 2015). Most importantly for the problem at hand, Generation X "likes research while shopping online: they read more reviews and visit more opinion sites than any other generation" (Peraltra, 2015). To sum it up, Generation Y represents the principal user of internet followed by Generation X and lastly by Baby Boomers (Forrester), and this difference is also consistent in online shopping behavior. Indeed, the first two generations are digital native: in particular, Gen Y is continuously overwhelmed by flow of information because of their habit to use mobile phones more (Parment, 2013). Interestingly, it is proven that these three generations do not differ "in terms of the act of shopping online", rather they reveal to be different when they had to search for the product online, since the younger group "reported searching for more products" than the older one (Sorce, Perotti, Widrick, 2005). Furthermore, it is proven that the probability of online shopping decrease with age among generation X, while the same probability increases with age among Gen Y (Lissitsa, Kol, 2015). The findings of Dhanapal et al.'s study show that the percentage of both females and males shopping online is almost similar. This consideration is relevant if we think that women show higher rates of hedonic consumption and impulse shopping compared to men.

1.2 When consumers buy online: hypothesis' development

Proven that both hedonic and utilitarian motivations play a role in consumer's online decision making, now is time to evidence what really happens online, and whether utilitarian dimensions can

be preferred to hedonic ones under certain circumstances, and vice versa. Indeed, once the consumer is online, there are different factors which can elicit one motivation to buy rather than another, like consumers' interaction with technology and personalized online shopping. The theories discussed in the following paragraph will lead to the formulation of the hypothesis of this piece of research, which aims to study the effects of the voice-shopping on the main relation between online motives to shop and the willingness to buy, compared to the effect generated by the traditional modality to shop online. In literature, there are several theories which examine consumers' online purchases depending on their level of confidence with online technology. For instance, the technology acceptance models (TAM), the theory of planned behaviour (TPB) and the theory of reasoned action (TRA). So, TAM states that perceived usefulness and perceived ease of use about a new technology define user's attitude toward that technology and, in turn, determine their willingness to use it (Davis, 1989). Then, TRA model claims that consumer behaviour is affected by consumer intentions that are functions of consumer's attitude and subjective norms (Ajzen & Fishbein, 1975). Lastly, TPB represents an extension of TRA model by adding perceived behavioural control as a predictor of intention and behaviour (Ajzen & Fishbein, 1980). Thus, it is possible to assume that nonfunctional motives drive consumers' preferences toward the use of technology which, in turn, affect final purchase intention. Moreover, since it is proven that variety seeking and convenience are the main reasons to shop online (Rohm and Swaminathan, 2004), and they are utilitarian in nature, it is found that hedonic factors when using personalized online shopping (e.g., "recommendations based on previous purchases, tailored messages based on browsing history") do not necessary lead consumers to the final purchase (O.Pappas, Kourouthanassis, Giannakos, Lekakos, 2016). The perceived ease of use within technology acceptance model is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). Even if is proven that perceived ease of use depends on different personality traits, in particular need for arousal and technological innovativeness, this statement is verified when IT ease of use refers to "the primary task for which the IT is deployed is directly associated with intrinsic IT characteristics" (Gefen and Straub, 2000). It means that ease of use cannot affect a web site which is solely used to purchase a product, because the act of purchasing is not linked to an intrinsic IT characteristic. Differently, when even the same web site is used to seek for information related to products, the perceived ease of use affects IT adoption, because the information provided is integral part of the IT. Furthermore, it has been written that brick-and-mortar retailers can engage more consumers along their five senses, leading them to impulse purchases. But it is also true that those consumers who are driven by hedonic motivations to purchase online can be engaged into impulsive buying. Especially, when consumers feel that an online store has a varying offering and is easy to

use, the store is perceived to be more appealing, at least at a visual level. Once consumers shop in this kind of site, they are more involved in the consumption act, "they have more pleasure of making purchase" and are more willing to make unplanned purchase, indulging in impulsive buying (Liu, Li, Hu, 2013). To continue, several researchers argue that increased perception of website's interactivity results into a higher level of perceived control and interest (Alba et al., 1997; Ghose and Dou, 1998; Weinberg et al., 1998). Further, "consumers are more likely to buy when they can find the selection they want, make the transaction easily, and have it delivered in a timely fashion" (Wolfinbarger and Gilly's, 2001). Since literature have recently recognized consumers as rational as well as emotive creatures, what emerges is that even the shopping experience they live becomes a "product attribute in the economic sense, a valued added element used to differentiate goods and services" (Pine and Gilmore, 1999). Through the research conducted by Hassenzahl et al (2010) there are evidences that hedonic and utilitarian features are essential in supporting each other when "utilitarian components are low, but hedonic qualities are high, and vice versa". Engagement is pointed out as a specific quality of user experience even online and is defined as the "act of *emotionally involving users*" (Jacques et al., 1995). It is made up of the following sub-dimensions: Focused Attention, Perceived Usability, Endurability, Novelty, Aesthetics and Felt Involvement (O'Brien and Toms, 2010). Consistent with the claim that hedonic motivations have an effect on consumer shopping behaviour, and engagement too, it is proven that the dimensions of Adventure/Gratification predict Focused Attention and Achievement predicts Endurability; lastly, Aesthetics predicts both Focused Attention and Perceived Usability (O'Brien, 2010). Although "efficiency is an established standard of usability", this utilitarian dimension is not taken into account in the level of engagement, because those consumers "who are seeking an engaging experience with a technology may not be concerned about the time required to carry out a task" (O'Brien, 2010). According to Babin and Attanway (2000), "a potential consumer who has positive feelings about a particular site is both more satisfied and more likely to buy than one who does not". In addition, "feelings of control and enjoyment while using Internet are also positively related to intensions to purchase" (Dabholkar, 1996). Park (2000) seems underlining the effect of hedonic dimensions like interest and excitement, which together can be encouraged to stimulate online shopping. Thus, another model is needed to explain the effect of hedonic motivations too, still continuing on analysing consumer-technology relation. For this purpose, Hoffman and Novak (1996) theorized that Internet users can show a state of flow while interacting with technology. In detailed, the flow consists on "a holistic sensation that people feel when they act with total involvement" (Csikszentmihalyi, 1975). According to Novak et al. (2000), this state occurring during network navigations is:

- *"characterized by a seamless sequence of responses facilitated by machine interactivity;*
- *intrinsically enjoyable;*
- accompanied by a loss of self-consciousness;
- self-reinforcing".

This has been formulated as the theory of flow, according to which certain aspects of flow can stimulate some elements of hedonic values, like sense of control, curiosity, enjoyment and telepresence (Pui-Lai To, E-Ping Sung, 2015). Nevertheless, other hedonic motivation which rises in physical shopping cannot be significant in the online environment, since the visual stimulation offered by online retailers may do not hold its own against the multi-sensory stimulation provided by physical retailers. This is consistent with what is written previously in the early paragraph. Anyway, this study evidences that online shoppers still embody traditional shoppers together with the ability of Internet users (Pui-Lai To, E-Ping Sung, 2015). Nonetheless, if on one hand hedonic elements of flow are proven to evoke enjoyment from the online experience, on the other hand they may not increase online purchases (Senecal, 2002). Indeed, the study conducted by Bridges and Florsheim (2007) states that hedonic elements of flow may encourage the use of Internet, but do not necessarily influence online buying, while utilitarian ones do. Conversely, a more recent research proves that consumers who experience a state of flow online are more likely to generate positive attitudes toward online shopping, as well as engaging in exploratory behaviour (Korzaan, 2016). Specifically, "when in a state of flow, an individual is more likely to engage in exploratory behaviour and form favourable attitudes toward online shopping", which, in turn, "forms intentions to actually make purchases online" (Korzaan, 2016). This report also suggests how to display a Web site taking into account the evidences emerged by Novak et al.'s study (2000) in order to lead consumers to the psychological state of flow. However, the core of the study at hand goes beyond the visual attractiveness of online web sites. Indeed, the theory of flow can be useful to introduce and explain the adoption of the vocal(voice)-shopping. What is known is that consumption act is divided into online and offline environments. Based on these habits, Choi and Park (2006) have used the term "multichannel shoppers" to define those who shop online or offline. As well as for online shopping motives, multichannel shopping too is recognized to be driven both by hedonic and utilitarian motive. The former embraces experiential shopping behaviour and shopping impulsiveness, while the latter comprehends information seeking, shopping convenience, and price consciousness (Kwon & Jain, 2009). All these aspects are in line with what has been stated until now. To continue, nowadays consumers are experiencing omnichannel shopping even as the result of technological progress, which includes Artificial Intelligence (AI). More precisely, voice

assistants' (VA) technology is a branch of AI which deserves to be taken into account for the recent interest generated among consumers. In the early past, voice recognition has been largely used by Microsoft, Google, Amazon and Facebook as one of touchpoints through which frequently interact with users (Moriuchi, 2018) and commonly known as smart assistant. As De Mers (2017) states, "voice recognition has already been impacting search behaviour", since it allows consumers to have a more "convenient and delightful way of doing certain things" (Moriuchi, 2018). And if that was not enough, the v-commerce which has recently appeared in the e-commerce scenario represents a real disruptive solution. A relevant acknowledgement comes from Evan Tennant's statement (2018), according to which voice assistant will probably continue to offer a support on "lightweight decisions". As suggested by Invoca (2018), voice assistants are more often used for habitual purchases, thus not much cognitive effort is required. Tennant (2018) also states that voice-activated smart devices perfectly embodies the ease of use and personalization, which are the main characteristics of the e-commerce. So, assuming that "human tend to anthropomorphize technology even in the absence of more human-like features such as voice" (Nass, Moon, Fogg, Reeves and Dryer, 1995), new available technology is going to make the level of anthropomorphism higher through the smart assistants like Google Home or Amazon's Alexa. Now, it seems logical to sustain that the higher the perceived level of anthropomorphism associated with vocal-shopping, the higher the suspected state of flow generated through this disruptive technology. Indeed, one of the reasons which guide the state of flow is the "seamless sequence of responses facilitated by machine interactivity. Moreover, since the voice-shopping elicits a "delightful way to do things", it may satisfy the condition of "intrinsically enjoyable" required by the state of flow, and both them are hedonic in nature. Consequently, and mostly important for the purpose of this research, a higher state of flow should lead to higher willingness to buy online. In addition, other research suggests that hedonic motivations may be more salient during the interaction with the technology, whilst utilitarian motivations may be more outstanding before and/or after the experience has taken place (O'Brien, 2010). On the basis of the above considerations, it is possible to hypothesize a moderating effect of traditional online shopping modality on the main relationship between online motives to shop and willingness to buy:

H1: Shopping modality plays a moderating effect on the relationship between motives to shop online and willingness to buy. Thus, a) if the shopping modality is traditional, it enhances the main relationship between utilitarian motive to shop and willingness to buy. b) If the shopping modality is vocal, it weakens the relationship between utilitarian motive to shop online and willingness to buy. Now that v-commerce has been presented, it is possible to evidence consumers' behaviour toward voice technology. The survey conducted by PWC in 2018 on a sample of American consumers show how differently generations X, Y and baby boomers behave when the face this new technology. Unexpectedly, youngest consumers between 18 and 24 years old adopt new technology at a faster rate, but they use their voice assistant less. On the other hand, those consumers who are 25-49 years old are more likely to be "heavy users", since they use voice assistant more. A possible explanation of this phenomenon could be that young consumers interviewed address a need of privacy while speaking with their voice assistant, since using it in public could be "weird". Given the fact that this generation is the one that spend much time outside home, this could be the reason behind their low usage of voice assistants. Regarding gender differences in the online behaviour, another PWC's survey reveals that men are the early adopters of AI devises. A higher percentage of men plan to buy online compared to women. Thus, on one hand men plan to shop online and use AI, on the other hand women show higher rates of hedonic consumption, and indulge in impulsive buying more than what men do (as written in the previous paragraph). Considering that voice-shopping is even more disruptive than the normal voice assistants, point of view of men would be necessary to test the effectiveness of this shopping modality. At the same time, women's answers would test the result of voice-shopping on impulsivity. When collecting responses to test the hypothesis of the model, no restrictions will be made in accepting responses by both genders, and no distinction is made among generations.

2. Conceptual Model

The aim of this piece of research is to contribute to the current literature. Existing literature supports that online motives to shop are the antecedents of the willingness to buy online, so there is a main relation between them. The model here presented is a 2x2 designed, where online motives to shop online represent the non-metric independent variable (X), which is differentiated into utilitarian and hedonic motives to shop. The willingness to buy, instead, is the metric dependent variable (Y). Then, the main relation between independent and dependent variable is assumed to be moderated by two shopping modalities: traditional online shopping and voice shopping.



3. Why this study is relevant

Artificial Intelligence is raising its voice in the technological domain, and its influence is providing to have a domino effect also in the marketing field through the emerging voice-commerce. Not much is written about vocal-commerce in literature yet, maybe because of topic's novelty. Consumers' online behaviour has been widely investigated, and thanks to the existing literature I come out with the above model which intends to give important evidences for the new phenomenon at hand. Indeed, if the results of the experiment I am willing to conduct are significant, it will mean that voice-commerce is perceived by consumers as a more enjoyable and natural way to interact with brands. And this would also strengthen the role of hedonic motivations to buy online over the

dominance of utilitarian ones. As Wolfinbarger and Gilly (2001) state, e-commerce will continue to satisfy goal-focused as well as experiential consumers. Thus, it is strategic for companies to know what drives consumers online, even predicting new methods that could enhance their satisfaction in consumption. I believe that voice-shopping is worth to study because of the following reasons:

- **Conversational interface**. Nowadays consumers already make vocal search using mobile phones, smart assistants and so on and so forth. They frequently interact with these devices, and the opportunity to make a purchase using voice would represents a natural extension of vocal search. This, in turn, would represent a never-ending purchasing process at the sight of customers.
- One-Moment Marketing. Voice-shopping seems to answer to industries' need of being connected with customers on an always-on basis, which reflects the OneMoment Marketing. According to this current trend, there are four basic moments along which the customer journey is developed: I want to know, I want to go, I want to buy and I want to do. It becomes crucial for companies to be present in the right moment to satisfy the right customer with the right content.
- **Impulse buying.** I have reason to believe that the characteristics of vocal commerce would lower the distance between thought-decision-purchase dimensions, making way for impulse buying. Indeed, when consumers start and, most importantly, continue their shopping path vocally, the first thing that comes to their minds can be easily purchased vocally, which means immediately, without typing or even changing device.
- **Shopping cart use.** Based on the previous point, I believe that voice-shopping would offer companies a valid solution to avoid the shopping cart leaving during online shopping by consumers.

If on one hand this voice shopping can help managers serve their customers better (Simonson, 2005), and it can be an opportunity for companies to be integrated in their marketing strategies (Moriuchi, 2018), on the other hand a main concern regarding risks to shop online, privacy and trust merit to be taken into account. For what concern perceived risks in online shopping, Forsythe et al. (2006) have identified three of them: financial risk, product risk and convenience risk. Firstly in order, financial risk *"is the perceived net loss of money and consumers' perceived insecurity (e.g., the feeling of insecurity regarding online credit card usage*)" (Forsythe et al.,2006). Secondly, product risk is associated with a mismatch between expectations consumers nurture toward the product bought and its performance, given by the fact that products purchased online cannot be tested previously. Lastly, convenience risk is meant as *"the buyer's perceived inconvenience while placing order online*" (Forsythe et al.,2006). In the existing literature has been pointed out that all

the abovementioned risks rely on utilitarian dimensions or are related to time and cost. It is to say that those consumers with higher utilitarian shopping motives are likely to perceive shopping online riskier compared to consumers with lower utilitarian motives (Sarkar, 2011). However, Sarkars's (2011) study demonstrates how online risks are overcome by benefits utilitarian consumers perceive shopping online. On the contrary, for those consumers who have a higher level of hedonic shopping values, off-line stores seem to be preferred choice, because online risks are perceived to be higher than the advantages they can gain online (Sarkar, 2011). Another study has interestingly related the perceives risk from using Internet with the Internet experience, showing that "higher levels of Internet experience may lead to lower perceived risk toward online shopping, which results in higher online purchase rates" (Miyazaki, Fernandez, 2001). On the contrary, the longer the period of experience using Internet, the higher the level of privacy concerns, proving that more information acquired during a longer experience may not solve all privacy issues (Miyazaki, Fernandez, 2001). Among the initial issues online identified few lines above, trust is the only missing one. It is studied to be a crucial factor in buying processes, especially when consumers seek for experience and service qualities of goods/services. According to an economic framework, "trust is described as a risky advanced concession in the expectation of a positive outcome" (Ripperger, 1998). Translated to the online world, trust is one of the mental shortcuts people do in order to manage everything. Indeed, online transactions do not imply simultaneous exchange of goods and money, and several similar offerings are available to each consumer at the same time. In this sense, trust is used to cope with complexity and uncertainty (Luhmann, 1989), since humans have limited cognitive resources available.

Anyway, these concerns are not explicitly referred to voice-commerce only, since they are common to the e-commerce in general. Indeed, at the early stage of Internet usage, users were skeptical about the effectiveness of the new technology. They used to buy lower cost elements, but through the years they value more the online buying starting choosing among wide array of products, even spending more. The same effect can be expected to happen with voice-shopping as it becomes more known.

Chapter three: Methodology for data analysis and results

1. Pilot Test's Procedure and Measures

Before collecting data to test the hypothesis of a moderator effect on the main relationship between motives to shop online and willingness to buy, a pilot test was conducted to reach 40 respondents at least. It was designed on Qualtrics in order to test whether the two products chosen were perceived by respondents as significantly different in terms of hedonic/utilitarian dimensions. Italian was the language chosen for this pilot test, which was named "Pre-Test Hedonic/Utilitarian motivations to

shop". This pre-test was shared mainly through WhatsApp among friends and relatives. Respondents were exposed to two different conditions, respectively utilitarian and hedonic¹¹ one. No images were inserted to avoid that answers would be biased by the degree to which respondents would judge a picture as pleasant or not. The hypothetical purchasing of the products was measured by a seven-point, ten items semantic differential scale developed by Spangenberg (2003) and adapted to Italian¹². The scales were identical for both conditions (utilitarian and hedonic). Two weeks after the Qualtrics' sharing, the pre-test was closed with 70 responses, which were actually higher than expected. Nevertheless, nearly half of them should have been deleted because were partial or ungiven responses. Thus, the final dataset was composed by 47 responses. The Cronbach-Alpha and the Common Factor Analysis were conducted to test respectively the reliability and the validity of the scales. For the first scale showed after the utilitarian¹³ condition, the Cronbach-Alpha was greater than the cut-off 0.60 (α = 0.940). For the second one presented after the hedonic condition, the Cronbach-Alpha was greater than 0.60 (α =0.959). Hence, both scales were reliable. For what concern the Common Factor Analysis, I expected to find two subdimensions (one hedonic and one utilitarian) within each scale (the scale showed after the utilitarian condition and the other after the hedonic one). As expected, two subdimensions were found in the scale of the utilitarian condition after having deleted cross-loading factors. Thus, this scale was reliable and valid for six items over ten¹⁴. Conversely, the scale for the hedonic condition had only one subdimension after the cross-loading. That is to say that this scale was not valid but reliable for its two subdimensions.

2. Research Design and Data-Collection Methodology

The empirical analysis carried out in this study had the main purpose to test how motives to shop online (X-independent variable) influenced consumers' willingness to buy (Y-dependent variable) via shopping modality (depending on whether it was traditional or vocal). A causal research design was chosen to evaluate this moderation effect on the causal relationship between motives to shop online and willingness to buy. Given the online nature of the research topic, an online experiment was run in which participants were randomly assigned to one of the four combined conditions¹⁵, and were asked to complete a questionnaire. Considering the tools available for the purpose at hand, this primary-data collection method was the most effective in terms of audience ease of reach, ease of administration, speed and affordability. In order to test the hypothesis H1, a moderation model with

¹¹See Appendix A

¹² See Appendix B

¹³ See Appendix B

¹⁴ See Appendix C

¹⁵ See Appendix D

shopping modality as a moderator was designed. To continue, both motives to shop online (X) and shopping online (Z) were non-metric variables. In particular, a value of 1 was assigned to the "utilitarian" motive to shop, whereas a value of 0 was assigned to the "hedonic" one. Regarding the online shopping modality (the moderator), a value of 1 referred to the "traditional" modality, while a value of 0 referred to the "vocal" modality. On the contrary, the willingness to buy was a metric variable since it was measured by a multi-item scale.

3. Experiment Procedure and Measures

As done previously for the pilot-test, a Qualtrics questionnaire was involved for the experiment too. Specifically, it was designed as a between subject, since participants received one of the four versions of the questionnaire, which were identical expect for the conditions randomly assigned to them. For each condition, respondents were firstly exposed to a utilitarian¹⁶ and hedonic¹⁷ scenario. Again, no images of the products were showed to participants in order to avoid biased results based on people's aesthetic preference. In the traditional online shopping conditions (with no difference between hedonic or utilitarian motives to shop online), they were exposed to a picture¹⁸ depicting an online purchasing act through a traditional e-commerce site. Conversely, in the vocal conditions, the picture depicted a dialog between a human and the Alexa smart assistant. Actually, I would have preferred to insert a short video showing the dialog between human and machine because it could have been more realistic and explanatory. Unfortunately, all videos available online where in English. Since the target audience was composed by Italian people, the main concern was that respondents would withdraw from the questionnaire's completion if they were exposed to an English video. However, these images were chosen to strengthen the traditional vs voice shopping modality's manipulation. The scale developed by Spangenberg (2003) was used to measure the online motives to shop online¹⁹. The willingness to buy (Y) was measured by a seven-point Likert scale developed by Dodds et al. (1991) adapted to Italian²⁰ (Molto bassa/Molto alta). The seven items, seven points Likert scales developed by Forsythe at al. (2016) were used to measure the perceived risks and perceived benefits related to the four conditions²¹.

¹⁶ See Appendix A

¹⁷ See Appendix A

¹⁸ See Appendix E

¹⁹ See Appendix B

²⁰ See Appendix F

²¹ See Appendix M

4. Results

4.1 Sample Descriptive

The online experiment reached 270 responses one month after its launch. I deleted all the partial or ungiven responses, resulting in a final sample made up of 130 Italian participants²² (80 females, 38 males and 12 not given answer). The age²³ of respondents ranged between 15 and 87 years old Specifically, 47.7% of respondents was within the first group age ($15 \le x \le 40$), 39.2% falled with the group two ($41 \le x \le 66$) and the 3.4% of the sample is comprised in the group number three ($67 \le x \le 87$). Lastly, 10% of people did not indicate the age. Concerning the employment²⁴, it was found that 50.8% of the sample was composed by workers, followed by 32.3% of students and just 6.9% unemployed. Again, 10% of the sample did not answer to this question.

4.2 Results of the experiment

The online shopping modality's moderation effect was analysed through a two-way ANOVA. Both the independent variable (X) and the moderator (Z) were categorical in nature. Thus, two new dummy variables were coded for them in order to run the analysis. On one hand, the "motives to shop online" variable was renamed as "IV" (independent variable), where a value of 1 was assigned to the utilitarian motive, whereas a value of 0 was assigned to the hedonic one. On the other hand, the "online shopping modality" variable was coded as "TradVSVocal", where the value of 1 referred to the traditional shopping modality, while the value of 0 referred to the vocal one. The two-way ANOVA²⁵ analysis proved the overall model to be statistically significant (F=3.843, p<0.05), and the interaction term TradVSVocal*IV too was significant (F=6.725, p<0.05). It verified that a moderation effect existed between X and Y. In addition, the graph of marginal means²⁶ was performed with the aim to interpret these results. The evidence is that the traditional shopping modality (the red line) had higher values than the vocal shopping modality (blue line) for the hedonic condition (IV=0). Yet, the traditional shopping modality has higher values than vocal still in the utilitarian condition (IV=1), even if the difference among the estimated marginal means is lower compared to the previous condition. Hence, the moderation effect is proven, but it generated opposed results to what I hypothesized at the beginning of this work of thesis. Given this

²² See Appendix G

²³ See Appendix G

²⁴ See Appendix G

²⁵ See Appendix H

²⁶ See Appendix I

outcome, I decided to carry out a one-way ANOVA treating the "TradVSVocal" as the independent variable, and the "WTBALL" as the dependent variable. The result ²⁷ is relevant for the study at hand, since it proved that group means are significantly different. It means that the online shopping modalities had differential impact on WTB. Nevertheless, no significant results were obtained comparing means of TradVSVocal neither with perceived benefits or risks.

Conclusions

1. General discussion

The main objective of this research was to examine the rule of vocal commerce as the moderator of the main relation between motives to shop online and the willingness to buy. Firstly, the two-way ANOVA performed has tested that the conceptual model was statistically significant. The interaction term given by online shopping motives and online shopping modalities was significant too. Nevertheless, the interpretation of the abovementioned results revealed that the hypothesis formulated (H1) was not verified. Indeed, the traditional online shopping modality had higher mean values under the hedonic condition compared to the mean values of vocal commerce on the same condition. Even if the hypothesis H1 was not verified, it is proven through the one-way ANOVA that the online shopping modality, thus the vocal commerce too, has a significant effect on the willingness to buy. This result can open new scenarios for both the managerial and theoretical implications.

1.1 Theoretical implications

The evolving interest toward the artificial intelligence to shape some new e-commerce modalities does not find adequate support and knowledge in the scientific literature. This piece of work has the aim to offer a contribute to the current literature. Contrary to what previously hypothesized on the basis of O'Brien's statement (2010), hedonic motivation which drive consumers to shop should be higher when they interact with technology (e.g., the smart assistant in the vocal commerce condition). Nonetheless, the graph of marginal means showed the opposite result. Anyway, the vocal-shopping has an effect on the willingness to buy, proving that when consumer is in a state of flow, he/she generates better attitudes toward the final purchase (Konzan, 2016).

²⁷ See Appendix L

1.2 Managerial implications

Considering that vocal-commerce is still a quite unfamiliar topic for the Italian market, the statistically significant results of both conceptual model and interaction term are a good starting point. Although the voice shopping modality did not cause the hypothesized result in the hedonic conditions, it had an effect on the willingness to buy. The real novelty is to know that willingness to buy does not only depend by which kind of products is sold, or whether the product is online or offline. The vocal-commerce has opened a new opportunity to consumers among the online shopping modalities, meaning that the e-commerce would never be the same. Knowing this, the most visionary companies can even anticipate consumers' needs managing to offer a superordinate level of service through the voice-commerce.

2. Limitations and future research

This study has some limitations that could suggest different directions for future research. Firstly, the selected method of data gathering undoubtedly affected the results of the experiment. The sample analysed could have been more heterogeneous with a sampling technique different from the non-probability chosen here. Indeed, the number of answering females is double than the males one. As explained in the second paragraph, the theory disclosed that the percentage of both females and males shopping online is almost similar. Although women show higher rates of hedonic consumptions compared to men, the latter engage more in AI's use. That could be one possible explanation for the not verified hypothesis. In addition, nearly half of the sample is made up of young people, with a prevalence for Millennials. Again, the research conducted by PWC stressed how the youngest are less willing to use vocal assistants in public because of a sense of shyness they have. Since they spend the majority of their time socially, they do not use vocal assistants. To continue, nearly half of collected responses were uncompleted or ungiven, maybe because of the length of the questionnaire itself. I would ask less questions to answer if I could repeat the experiment in order to obtain even more accurate responses. Lastly, the effects of vocal-commerce have never been tested previously in Italy, thus this thesis can be considered a sort of pilot testing for this new trend.

Appendix A

- Utilitarian condition: Immagina di aver bisogno di una nuova agenda dove poter appuntare tutti i tuoi impegni. Questa dovrà avere pagine sufficientemente grandi e distinte per ogni giorno della settimana per facilitarti nell'inserimento delle note.
- Hedonic condition: Immagina di voler regalare un'agenda ad un/a tuo/a amico/a dove egli/lei possa disegnare o appuntare le sue riflessioni. Questa dovrà avere una copertina colorata per stimolare la sua fantasia e contenere degli stickers con cui lui/lei possa personalizzare ogni pagina.

Appendix B

Considerando lo scenario appena descritto, come giudicheresti l'acquisto dell'agenda?

Inefficace	0000000	Efficace
Inutile		Utile
Non funzionale		Funzionale
Non necessario	0000000	Necessario
Non pratico	$\circ \circ \circ \circ \circ \circ \circ$	Pratico
Non divertente	0000000	Divertente
Noioso	$\circ \circ \circ \circ \circ \circ \circ$	Stimolante
Non piacevole	$\circ \circ \circ \circ \circ \circ \circ$	Piacevole
Non emozionante	$\circ \circ \circ \circ \circ \circ \circ$	Emozionante
Non gradevole	0000000	Gradevole

Appendix C

• Utilitarian condition

	Componente		
	1	2	
Utilitarian 4 non necessario-necessario	,920		
Utilitarian 2 inutile-utile	,917		
Utilitarian 1 inefficace- efficace	,873		
utilitarian 9 non emozionante- emozionante		,900	
Utilitarian 6 non divertente-divertente		,898	
Utilitarian 8 non piacevole-piacevole		,892	

Matrice dei componenti ruotati^a

Metodo di estrazione: Analisi dei componenti principali. Metodo di rotazione: Varimax con normalizzazione

Kaiser.^a

 a. Convergenza per la rotazione eseguita in 3 iterazioni.

• Hedonic condition

Componente 1 hedonic 8 Non piacevole: ,902 Piacevole hedonic 7 - Noioso: ,891 Stimolante hedonic 1 Inefficace: ,883 Efficace hedonic 6 Non divertente: ,867 Divertente hedonic 2 Inutile:Utile .863 hedonic 4 Non ,863 necessario:Necessario hedonic 5 Non pratico: .838 Pratico hedonic 3 Non ,817 funzionale:Funzionale hedonic 9 Non ,758 emozionante: Emozionante Metodo di estrazione: Analisi dei

Matrice dei componenti^a

componenti principali. a. 1 componenti estratti.

Appendix D

- Utilitarian motive to shop traditionally + Hedonic motive to shop traditionally (which was assigned a value of 1)
- Utilitarian motive to shop traditionally + Hedonic motive to shop vocally (which was assigned a value of 2)
- Utilitarian motive to shop vocally + Hedonic motive to shop traditionally (which was assigned a value of 3)
- Utilitarian motive to shop vocally + Hedonic motive to shop vocally (which was assigned a value of 4)

Appendix E

• Traditional online shopping modality



• Vocal-commerce modality



Appendix F

Considerando lo scenario precedentemente descritto, indica fino a che punto sei d'accordo (o meno) con le seguenti affermazioni.

Nota che 1= "Fortemente in disaccordo" e 7= "Fortemente d'accordo"

	1	2	3	4	5	6	7
La probabilità che tu acquisti quest'agenda è	0	0	0	0	•	0	
La tua intenzione di acquistare quest'agenda è	0	0	0	0	0	0	
La probabilità che tu possa considerare l'acquisto di quest'agenda è	0	۲					

Appendix G

• Gender

Frequenze (Gender)

Statistiche

Gender

Ν	Valido	130
	Mancante	0

Gender						
		Frequenza	Percentuale	Percentuale valida	Percentuale cumulativa	
Valido		12	9,2	9,2	9,2	
	Femmina	80	61,5	61,5	70,8	
	Maschio	38	29,2	29,2	100,0	
	Totale	130	100,0	100,0		

• Work (1= student, 2= worker, 3= unemployed)

Statistiche				
work				
Ν	Valido	117		
	Mancante	13		
Media		1,72		
Errore stand	ard della media	,055		
Mediana		2,00		
Deviazione s	itd.	,600		

work

		Frequenza	Percentuale	Percentuale valida	Percentuale cumulativa
Valido	1	42	32,3	35,9	35,9
	2	66	50,8	56,4	92,3
	3	9	6,9	7,7	100,0
	Totale	117	90,0	100,0	
Mancante	Sistema	13	10,0		
Totale		130	100,0		

• Age

Statistiche

Age1

Ν	Valido	117
	Mancante	13
Media		1,50
Median	а	1,00
Deviazione std.		,567
Minimo		1
Massim	10	3

Age1

		Frequenza	Percentuale	Percentuale valida	Percentuale cumulativa
Valido	1	62	47,7	53,0	53,0
	2	51	39,2	43,6	96,6
	3	4	3,1	3,4	100,0
	Totale	117	90,0	100,0	
Mancante	Sistema	13	10,0		
Totale		130	100,0		

Appendix H

• Two-way ANOVA

Fattori tra soggetti

		N
TradVSVocal	0	25
	1	105
IV	0	34
	1	96

Test di effetti tra soggetti

Variabile dipendente: WTBAII							
Origine	Somma dei quadrati di tipo III	gl	Media quadratica	F	Sign.		
Modello corretto	32,918 ^a	3	10,973	3,842	,011		
Intercetta	933,084	1	933,084	326,708	,000,		
TradVSVocal	22,933	1	22,933	8,030	,005		
IV	3,736	1	3,736	1,308	,255		
TradVSVocal * IV	19,205	1	19,205	6,725	,011		
Errore	359,858	126	2,856				
Totale	2305,611	130					
Totale corretto	392,777	129					

a. R-quadrato = ,084 (R-quadrato adattato = ,062)

Appendix I

• Marginal means groups

Grafici di profili



Appendix L

• One-way ANOVA

ANOVA

WTBAII					
	Somma dei quadrati	gl	Media quadratica	F	Sign.
Tra gruppi	13,588	1	13,588	4,587	,034
Entro i gruppi	379,189	128	2,962		
Totale	392,777	129			

Appendix M

• Perceived benefits (same scale for traditional and vocal condition)

Considerando i benefici derivanti dalla possibilità di effettuare i tuoi acquisti online, indica fino a che punto sei d'accordo (o meno) con le seguenti affermazioni. Nota che 1= "Fortemente in disaccordo" e 7= "Fortemente d'accordo"

	1	2	3	4	5	6	7
Poter acquistare nella privacy di casa	0	0	0	0	0	0	0
Non dover uscire di casa per fare acquisti	0	0	•	0	•	0	•
Poter acquistare ogni volta che si vuole	0	0	•	•	•	•	0
Risparmiare lo sforzo di visitare i negozi	0	0	•	•	•	•	•
Oggetti disponibili da ogni luogo	0	0	0	0	0	0	0
Si possono ottenere buone informazioni sul prodotto online	0	0	0	0	0	0	0
Una più ampia selezione di prodotti	0	0	0	0	0	0	0
Avere accesso a molti brand e distributori	0	0	0	0	0	0	0
Non dover aspettare per essere serviti	0	0	0	0	0	0	0
Non avere seccature	0	0	0	0	0	0	0
Non sentirsi in imbarazzo se non si compra nulla	0	0	0	0	0	0	0
Nessuna indicazione confusa	0	0	0	0	0	0	0
Provare nuove esperienze	0	0	0	0	0	0	0
Entusiasta di ricevere un nuovo pacchetto	0	0	0	0	0	0	0
Poter comprare d'impulso in risposta ad una pubblicità	0	0	0	0	0	0	0
Poter personalizzare il design dei prodotti	0	0	0	0	0	0	0

• Perceived risks (same scale for traditional and vocal condition)

Considerando i possibili rischi derivanti dalla modalità di acquisto online, indica fino a che punto sei d'accordo (o meno) con le seguenti affermazioni.

	1	2	3	4	5	6	7
Non mi fido dell'azienda online	0	0	0	0	0	0	0
La possibilità di non ottenere il prodotto	0	0	•	•	•	•	0
La possibilità di comprare qualcosa per errore	0	0	0	0	0	0	0
Le mie informazioni personali potrebbero non essere mantenute	0	0	0	0	0	0	0
Il numero della mia carta di credito potrebbe non essere al sicuro	0	0	0	0	0	0	0
Non posso esaminare il prodotto	0	0	0	•	0	•	0
La taglia potrebbe essere un problema con i vestiti	0	0	0	0	0	0	0
Non posso provare gli abiti online prima dell'acquisto	0	0	0	0	0	0	0
Impossibilità di toccare e sentire gli oggetti	0	0	•	0	•	•	0
Troppo complicato effettuare un ordine	0	0	•	0	•	•	0
Difficile trovare un sito web adeguato	0	0	•	0	•	0	0
Le immagini impiegano troppo tempo per caricarsi	0	0	0	0	0	0	0

Nota che 1= "Fortemente in disaccordo" e 7= "Fortemente d'accordo"

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Introduction

The e-commerce has rapidly spread through the last years because of the advantages related to its use, like convenience and saving time and effort while shopping. It currently counts billions of users worldwide thanks to technological development and innovative solutions adopted for business. Nowadays, the Asia-Pacific area is the most powerful one for the e-commerce's activities leaded by Alibaba Group. On the other side of the planet, Amazon follows the Chinese ecommerce's giant acting as a big player. It has been written so much about the inner motivations that drive consumers to shop. For instance, the traditional literature has considered the final consumer as a Homo aeconomics always able to maximize his utility while shopping. More recently, this theory has been overcome in favour of a new way of thinking. Hence, it is demonstrated that consumers shop online both for utilitarian and hedonic motivations. Specifically, the former reflects the rational path to purchase followed by consumers, while the latter stresses the experiential side of the purchasing act. Given the online world within which this thesis is designed, it is worth to study how and whether these two inner motivations to shop can coexist within the new paradigm of e-commerce. Indeed, the v-commerce is the last online shopping modality which is going to re-shape the more traditional relationship consumers have had with brands and companies until now. In particular, it stands for vocal/voice commerce, practically meant as the possibility consumers have to order or buy something they want just using their voice, without touching or typing anything on a screen. Obviously, the v-commerce represents a new disruptive solution in the e-commerce scenario, but it is not the only novelty. Indeed, vocal commerce requires suitable technologies to execute the consumer's vocal commands. Coherently, Amazon and Google are marketing their own smart speakers, respectively Amazon Alexa and Google Home. It can be argued that this new shopping modality would affect online buying behaviors known so far. There are not evidences in the current literature yet. Thus, this experimental thesis would test whether the online shopping modalities moderate the main relationship between the motives to shop online and the willingness to buy. More specifically, two are the shopping modalities (traditional e-commerce and vocal-commerce), as well as the motives to shop online (utilitarian and traditional). This work of thesis is made up of three chapters. The first one is entitled "The evolution of e-commerce: the vocal commerce", and it is mainly focused on the vocal-commerce's phenomenon and related aspects. The chapter number two is called "Hedonic and utilitarian motives to shop online" and represents the core of this thesis, since it hosts the theoretical framework that leads to the hypothesis formulation for the conceptual model to be tested. The third and final chapter entitled "Methodology for data analysis and results" summarizes the statistical outcomes obtained from the online experiment.

The evolution of e-commerce: the vocal commerce

The chapter number one is designed to collect and summarize the non-scientific literature at hand about the vocal commerce. Before presenting this new online shopping modality, some interesting data have been firstly reported to show the relevance of the e-commerce phenomenon worldwide. Indeed, the vocal commerce is a part of the e-commerce itself, thus the latter becomes worth to be studied. Notably, the Asia-Pacific area continuous to flourish in the e-commerce's activities. This market is leaded by Alibaba Group with 467,72 billion dollars of revenues (Casaleggio Associati, 2019). The high value of revenues is also explained by the number of internet users who live in Asia, who represent half of 4.39 billion global internet users (www.wearesocial.com). Yet, China, Japan and Korea are at the top positions in the ranking for the investment made in the digital world (Insights on APAC Region, 2019). The good results achieved in Asia are followed by the American market's ones, which was able to reach 504 billion dollars revenues in 2018. Specifically, it has been made possible mainly by Amazon, which reached 11 billion dollars of profit on September 2018. It is also responsible for the 49% of online sales (Casaleggio Associati, 2019). Strongly different are e-commerce's numbers in Europe compared to the previous ones. Indeed, six over ten European consumers purchased online using mobile devices in 2018. Although it is estimated that the number of Italian online shoppers will grow to 41 million by 2023, Italian population who shop online is still lower compared to the one in other European countries (E-commerce in Europe 2018, Postnord 2018). Nevertheless, 40% of the world population (almost 2,82 billion of people) purchased online in 2018 and it is predicted that 3.20 billion of people will do by 2020 (Casaleggio Associati, 2019). These data are particularly meaningful in view of new challenges that e-commerce is currently facing, as the Artificial Intelligence (AI) and Machine Learning's rise. It is relevant to present both them, even briefly, to understand where vocal commerce comes from. AI was defined by John McCarthy (1995) as "the process of making a machine behave in ways that would be called intelligent if a human were so behaving". Machine Learning came next with the autonomous learning, which has become extremely important for robots and computers in the digital era. The aim of the former is to "allow computers learn automatically with no human interventions and adjust actions accordingly" (www.expertsystem.com). More practically, it is responsible for the vocal interactions that smart speakers/assistants have with humans. It is just one of the examples which can give the idea of how machine learning is becoming the norm in our daily lives, and it is even the most prominent one for the purpose at hand. Hence, it is worth to describe the voice assistant as "a digital assistant that uses voice recognition, speech synthesis, and natural language processing to provide a service" (www.smartsheet.com). The first voice assistant ever invented was IBM Shoebox, which was introduced on the market by the homonymous company in 1961. At the beginning, this was able to recognize 16 words and digits from 0 to 9 (voicebot.ai). As the technology has taken over, Google released its Google Now for Android system on May 2012. Then, Apple launched iPhone 4s on October 2014, which was equipped with Siri, the first digital virtual assistant for a smartphone (www.smartsheet.com). These two devices shared common features, like sending messages, answering questions, showing weather forecasting and so on. An upgraded level of service was offered by a smart speaker called Amazon Alexa and introduced by Amazon on November 2014. Indeed, this smart speaker enables people to search the web, create todo and shopping list, control smart-home products and shop online just with vocal commands (thewirecutter.com). The terms smart speaker and voice assistant are used interchangeably, because the former uses voice assistant's technology within smart devices. Smart speaker is recognized as "one of the fastest adopted technologies in US history. That's reflected in the very high overall satisfaction (96% globally) that consumers express for this technology" (Reshape to relevance, 2019)²⁸. In order to be always available for a quick answer, they are placed mainly in common room, bedrooms and kitchen (www.thinkwithgoogle.com). Interestingly, 72% of smart speaker's owners claim that their devises become part of their "daily routine" because of the possibility these things offer to complete tasks with less frictions (www.thinkwithgoogle.com). Furthermore, 41% of voice-activated speaker's owners perceive to interact with these devices as they were human, saying "please", "thank you" and even "sorry" (www.thinkwithgoogle.com). Concerning the spread of those devises, 18.8% of U.S. adults use smart speakers, with a higher prevalence among male (57.8%) rather than female (42.2%) usage (Voicebot.ai, 2018)²⁹. As it does for the e-commerce, the smart-speaker's adoption too is different comparing Italian to American market. One possible reason is that smart devices have been tailored on American's needs, whereas they should still come closer to Italian's one. Going on, meaningful differences arise comparing Amazon Alexa with Google Home. Even if "Alexa is significantly worse than Google Assistant at answering questions and executing commands across various topics" (qz.com), it is still preferred over the second. The reasons could be threefold: "first mover status, broader developer support and development kits, range of devices at various prices and positive consumer sentiments" (staceyoniot.com). An additional element that stresses more the dominant position of Amazon is knowing that it does not have a desktop or a mobile software platform of its own (staceyoniot.com), but Google does. Since people shop on Google but buy on Amazon, Google has partnered with the major brands in US such as Target, Walmart and Costco. Thus, if on one hand Google signs partnership to answer to "more

²⁸ Accenture Digital Consumer Survey

²⁹ Smart Speaker Consumer Adoption Report

retail-based questions", on the other hand Amazon "is working to answer more information types of questions" (qz.com). However, Dobbs predicts that both "smart speakers' capabilities will slowly converge" in a near future. Hence, Amazon and Google would reach share parity, whereas it is currently won by Amazon. What emerges is that smart speakers open toward a completely new interaction with consumers. This relation can be named "V-commerce" as well as "Conversation Interface" (ecommercemag.it). These two terms can be used interchangeably, but V-Commerce one is going to be preferred along this work of thesis because of its effectiveness. Indeed, V-commerce stands for voice/vocal commerce, practically meant as products/services' online purchases made by vocal commands using digital vocal assistants (www.confimprese.it). American consumers mainly use their virtual assistant to vocally search products. Going deeper, it is estimated that "50% of all searches will be voice search by 2020 and voice shopping is estimated to reach \$40 Billion in U.S. by 2022" (www.invespocro.com). Nevertheless, consumers rely on smart speakers along the entire shopping journey, because voice commerce "is about returning things, exchanging things, tracking orders, reordering and improving the customer experience by answering questions whenever, wherever and however they are asked" (www.pymnts.com). Hence, voice search is the gateway into voice shopping, since when "consumers start navigating by voice, it is convenient to continue that process all of the way to checkout and purchase confirmation" (Voysis). Moreover, "talking" has less limits than "tapping", and voice commerce "unlocks all the moments in the day where consumers cannot, or do not, hold a smartphone or sit in front of a computer" (sprintvalley.com). The result is that everyone can shop as a desire arises, making each moment of the day shoppable. The One Moment Marketing is the current trend which subdivides the customer journey into the following four micro-moments: I want to know, I want to go, I want to buy and I want to do (www.argoserv.it). Voice commerce guarantees a "more human conversation with machines" through the Natural Language Processing (NLP). This skill helps consumers to perceive the shopping experience more natural and personalized. When a consumer places his order online through Alexa, these are the steps to follow (rubygarage.org):

- To say "Alexa order" and the name of the product he wants
- the smart speaker checks the buying history and suggests products based on previous data;
- if such data do not show previous request like the current one, Alexa suggests a choice among Amazon products;
- Alexa reports the product price and asks the shopper if he/she wants to buy it. If the answer is "yes", Alexa proceeds with the order. Otherwise, Alexa suggests other options.

Regarding the profile of v-commerce's users, the one who fall within 33-45 years range are at the top. Interestingly, just 32% of users feel comfortable engaging in dialog with voice assistants around unfamiliar people, pointing out that there is a shyness problem that limits the usage of these devices (Conversational Commerce³⁰, 2017). Based on statistics, the most frequently shopping categories purchased through voice are quite identical to the one bought by traditional online shopping (Voicebot.ai, 2018). Currently, voice is preferred for everyday transactions and it is not perceived as a channel for higher priced items (Voicebot.ai, 2018). This attitude toward vocal commerce is going to change as consumers become more comfortable with it. So far, the most common advantages related to voice shopping are summarized as "it is hands free, it enables consumers to multitask, and it is faster to get answers and results" (Voysis³¹). These benefits are quite identical to those identified for the smart speaker's usage, probably because these devices mainly work with voice. Summarizing, vocal commerce has fixed higher level of ease and convenience compared to internet by "minimizing friction including long lines, limited store hours and the timely checkout process on traditional websites" (Voice Report, 2019). By the side of disadvantages, privacy is the biggest concern among consumers. Since smart speakers should be always on to answer to users' questions, it means that they are listening to everything's happening at home, not just to the vocal commands directed to them. Indeed, they have to be internet connected in order to communicate with a server, which can be an Amazon or Google's property, depending on which kind of smart speaker the consumer is using. In this way, smart speakers encode vocal commands, and subsequently execute them (www.qualescegliere.it). The crucial element is that all conversations can be potentially heard by Amazon or Google, and this fear generates data security and passive listening's concerns. Another drawback takes the name of "incidental loyalty". This happens because "voice assistants assume that consumer wants to repeat previous purchase, and present that option to him first" (qz.com). Thus, the more consumers are offered a few options from voice assistants, the less they can discover something new, at least with vocal functions. The biggest risk is that competitors go out of the business, creating monopolies or duopolies (qz.com). The last pages of this chapter report some business cases about voicecommerce's adoption. Firstly, Amazon is launching a new pilot project in India, where consumers would be able to buy fly tickets using voice through Alexa. Although Italian consumers cannot book fly tickets vocally yet, thanks to some Alexa's skills they can obtain more information about baggage's dimensions which are asked to respect by the main airline companies operating in Italy. Secondly, Starbucks officially debuted voice ordering on January 2017 through "My Starbucks

³⁰ This survey reached a sample of 2,558 users among US, UK, France and Germany.

³¹ Voice Shopping Consumer Adoption Report, June 2018

Barista" on the Amazon Alexa platform. This shopping modality is an extension of Starbucks Mobile Order & Pay app, which already enables consumers to order and pay for their items before coming to the store. Obviously, the point of difference is that the former allows consumers to vocally place orders through the app. This new technology is in line with the Starbucks' strategy to offer a superior customer service, which contributes to shape its reputation (notesmatic.com). It is a fact that "young people are currently use one finger and point and click to order, but the next generation won't even do that, and will use their voice instead" (Guerri Martin, Starbucks' chief technology officer). Taking this behavior into account, the company expects to deliver an "unparalleled speed and convenience" with the voice-shopping, foremost to enhance customer loyalty and engagement (www.marketingweek.com). Lastly, Dunkin's Donuts too has taken the first steps towards voice technology with Google Assistant before, and Amazon Alexa after. The former case is more a "voice-assisted process", since consumers have to visually confirm the store they are ordering from (Voicebot.ai, 2018). Conversely, the partnership with Alexa enable consumers to both order and decide the store where to pick the products up just using voice (news.dunkindonuts.com). Again, voice-commerce fit with Dunkin' Donuts "always looking for ways to fit seamlessly into guests' daily routines and provide new levels of convenience and speed" (Stephanie Meltzer-Paul, Vice president, Digital and Loyalty Marketing for Dunkin's Donuts U.S.). In the last paragraph of chapter number one is stressed that voice on smarthphone has a higher reach compared to the one on smart speakers so far. It is logical considering the higher level of access for smartphones. Anyway, smartphones and smart speakers can even co-exist for the purpose of voicecommerce. That is, while waiting for an empowerment of smart speakers, smartphone equipped with digital assistants can educate consumers to the use of voice to shop. As voice-commerce can bring multiple benefits to the final user, like "efficiency and speed of access" (eMarketers, 2018)³², companies should be able to face the related challenges. For instance, vocal commerce is transforming the way people interact with machines, even the way and the time of the day they do. "When using voice search, customers ask questions in a natural way", "as they would speak to a real person" (rubygarage.org). The query will become even longer, till achieving seven keywords per search (www.vidiemme.it). As a result, business should modify their SEO strategy shaping them on voice search.

Hedonic and utilitarian motives to shop online

Shopping can be defined as "a series of behaviors of acquiring the product or as the value of the shopping process" (Pui-Lai to, Liao, Lin, 2007). Some of the most fascinating studies about

³² Conversational Commerce Roundup

consumers' purchase behavior have been related to their inner intentions whether to buy or not a specific product/service, defining the so-called motivations to purchase. For many decades, consumer buying behavior has been interpreted as fully rational and goal oriented (Howard and Sheth, 1969). Just recently, the literature has recognized the double nature of consumers buying decision making, composed by an "economic" orientation as well as by a "recreational" one (Bellenger and Korgaonkar, 1980; Korgaonkar, 1981). Among other researchers, Tauber (1972) was one of the first to study those motivations behind shopping behavior, claiming that consumers shop for both the utilitarian value of products and for the satisfaction derived from the shopping process itself (Pui-Lai to, Liao, Lin, 2007). More specifically, the "utilitarian" term is used to define the intrinsic motivation which efficiently and rationally leads to the final purchase (Scarpi, 2005), whereas the "hedonic" one represents the epicurean side of shopping (Sherry, 1990), where the experiential side of it overcomes the task completion (Scarpi, 2005). Mostly important for the theory at hand is the understanding that goal-seeking and pleasure-oriented behaviours are "complementary and intertwined" (Babin et al., 1994): it means these are not "necessarily two ends of a onedimensional scale" (Voss, Spangenberg and Grohmann, 2003) since the same product can be high or low in either hedonic or utilitarian attributes (Crowley, Spangenberg, and Hughes 1992). Traditionally, the literature has been focused more on the offline consumer behaviour, where shopping was recognized to provide both hedonic and utilitarian value. As the time goes, "with the rapid increase of the online shopping population, the total amount of online consumption has grown dramatically" (Pui-Lai To, E-Ping Sung, 2014), and the online consumer behavior has become worth to study. Thus, the initial and broader definition of shopping should be led into a more specific one, that is the shopping online, defined as "a form of electronic devise for purchasing without any intermediary services" (Gupta, 2013). Thus, if on one hand consumers perceive shopping as a mean to pursue happiness, fantasy, enjoyable experiences in both the offline and online environment (Pui-Lai To, E-Ping Sung, 2014), on the other hand the different hedonic/utilitarian tendencies within consumers tend to exhibit a different shopping behavior depending on whether consumer is buying in an online or offline store. To sum it up, consumers with a high hedonic shopping motive are willing to go for store shopping due to a more direct interaction with products. Conversely, a buyer driven by utilitarian motives is likely to go for nonstore shopping as it provides convenience of saving time and effort (Forsythe et al., 2006). Taking these aspects into consideration, should we claim that consumers' willingness to buy in an online store is primarily driven by utilitarian motives or could we argue that hedonic ones still play a role? The studies of Holbrook and Hirschman's (1982) confirm that the online environment still host both utilitarianism and hedonism. Indeed, Kim and Shim (2002) affirm that consumers online look for

gathering information and purchasing products as well as for needs of experience and emotion. This finding is consistent with the idea that online shoppers are similar to offline ones, and they seek both utilitarian and hedonic value. Regarding the impact of utilitarian and hedonic motives to shop on the consumer's willingness to buy online, it seems that previous literature does not agree with the idea that utilitarian motivation have a dominant role over hedonic one in the online shopping behavior. Indeed, if it is true that utilitarian purposes guide the online search intention, here merges that hedonic shopping motivation is positively related to exploratory information seeking online (Kim & Eastin, 2011). Interestingly, Moe's findings (2003) evidence that both goal-oriented and explorationoriented searching behaviour would affect purchase intention: indeed, goal-oriented consumers would generate purchase intention after having gathered the information they need, whilst exploration oriented-consumers would have impulsive purchasing behaviour once being exposed to an emotional stimulus. In conclusion, existing literature confirms that both utilitarian and hedonic motivations to shop online are the antecedents of consumer's willingness to buy in online stores. Now, it is time to evidence what really happens online, and whether utilitarian dimensions can be preferred to hedonic ones under certain circumstances, and vice versa. Indeed, once the consumer is online, there are different factors which can elicit one motivation to buy rather than another, like consumers' interaction with technology and personalized online shopping. Since it is proven that variety seeking and convenience are the main reasons to shop online (Rohm and Swaminathan, 2004), and they are utilitarian in nature, it is found that hedonic factors when using personalized online shopping (e.g., "recommendations based on previous purchases, tailored messages based on browsing history") do not necessary lead consumers to the final purchase (O.Pappas, Kourouthanassis, Giannakos, Lekakos, 2016). Conversely, a more recent research proves that consumers who experience a state of flow online are more likely to generate positive attitudes toward online shopping, as well as engaging in exploratory behaviour (Korzaan, 2016). Specifically, "when in a state of flow, an individual is more likely to engage in exploratory behaviour and form favourable attitudes toward online shopping", which, in turn, "forms intentions to actually make purchases online" (Korzaan, 2016). This report also suggests how to display a Web site taking into account the evidences emerged by Novak et al.'s study (2000) in order to lead consumers to the psychological state of flow. However, the core of the study at hand goes beyond the visual attractiveness of online web sites. Indeed, the theory of flow can be useful to introduce and explain the adoption of the vocal(voice)-shopping. What is known is that consumption act is divided into online and offline environments. Based on these habits, Choi and Park (2006) have used the term "multichannel shoppers" to define those who shop online or offline. As well as for online shopping motives, multichannel shopping too is recognized to be driven both by hedonic and utilitarian

motive. The former embraces experiential shopping behaviour and shopping impulsiveness, while the latter comprehends information seeking, shopping convenience, and price consciousness (Kwon & Jain, 2009). All these aspects are line with what has been stated until now. To continue, nowadays consumers are experiencing omnichannel shopping even as the result of technological progress, which includes Artificial Intelligence (AI). More precisely, voice assistants (VA) technology is a branch of AI which deserves to be taken into account for the recent interest generated among consumers. In the early past, voice recognition has been largely used by Microsoft, Google, Amazon and Facebook as one of the touchpoints through which frequently interact with users (Moriuchi, 2018) and commonly known as smart assistant, given the fact that "the effectiveness of trading information by speaking easily beats text-based messaging" (Invoca, 2018). As De Mers (2017) states, "voice recognition has already been impacting search behaviour", since it allows consumers to have a more "convenient and delightful way of doing certain things" (Moriuchi, 2018). And if that was not enough, the v-commerce which has recently appeared in the e-commerce scenario represents a real disruptive solution. A relevant acknowledgement comes from Evan Tennant's statement (2018), according to which voice assistant will probably continue to offer a support on "lightweight decisions". As suggested by Invoca (2018), voice assistants are more often used for habitual purchases, thus not much cognitive effort is required. Tennant (2018) also states that voiceactivated smart devices perfectly embodies the ease of use and personalization, which are the main characteristics of the e-commerce. So, assuming that "human tend to anthropomorphize technology even in the absence of more human-like features such as voice" (Nass, Moon, Fogg, Reeves and Dryer, 1995), new available technology is going to make the level of anthropomorphism higher through the smart assistants like Google Home or Amazon's Alexa. Now, it seems logical to sustain that the higher the perceived level of anthropomorphism associated with vocal-shopping, the higher the suspected state of flow generated through this disruptive technology. Indeed, one of the reasons which guide the state of flow is the "seamless sequence of responses facilitated by machine interactivity. Moreover, since the voice-shopping elicits a "delightful way to do things", it may satisfy the condition of "intrinsically enjoyable" required by the state of flow, and both them are hedonic in nature. Consequently, and mostly important for the purpose of this research, a higher state of flow should lead to higher willingness to buy online. On the basis of the above considerations, it is possible to hypothesize a moderating effect of traditional online shopping modality on the main relationship between online motives to shop and willingness to buy:

H1: Shopping modality plays a moderating effect on the relationship between motives to shop online and willingness to buy. Thus, a) if the shopping modality is traditional, it enhances the main relationship between utilitarian motive to shop and willingness to buy. b) If the shopping modality is vocal, it weakens the relationship between utilitarian motive to shop online and willingness to buy.

The conceptual model is presented below to give a more visual representation to the study conducted in this experimental thesis. The model is a 2x2 designed, where online motives to shop online represent the non-metric independent variable (X), which is differentiated into utilitarian and hedonic motives to shop. The willingness to buy, instead, is the metric dependent variable (Y). Then, the main relation between independent and dependent variables is assumed to be moderated by two shopping modalities (Z): traditional online shopping and voice shopping.



This experimental thesis wants to contribute to the current literature, within which voice-commerce has not found space yet, maybe because of topic's novelty. If on one hand this voice shopping can help managers serve their customers better (Simonson, 2005), and it can be an opportunity for companies to be integrated in their marketing strategies (Moriuchi, 2018), on the other hand a main concern regarding risks to shop online, privacy and trust merit to be taken into account. Anyway, these concerns are not explicitly referred to voice-commerce only, since they are common to the e-commerce in general. Indeed, at the early stage of Internet usage, users were skeptical about the effectiveness of the new technology. They used to buy lower cost elements, but through the years they value more the online buying starting choosing among wide array of products, even spending

more. The same effect can be expected to happen with voice-shopping as it becomes more known. Methodology for data analysis and results

Pilot test

Before collecting data to test the hypothesis of a moderator effect on the main relationship between motives to shop online and willingness to buy, a pilot test was conducted to reach 40 respondents at least. It was designed on Qualtrics in order to test whether the two products chosen were perceived by respondents as significantly different in terms of hedonic/utilitarian dimensions. Italian was the language chosen for this pilot test, which was named "Pre-Test Hedonic/Utilitarian motivations to shop". This pre-test was shared mainly through WhatsApp among friends and relatives. Respondents were exposed to two different conditions, respectively utilitarian and hedonic one. The hypothetical purchasing of the products was measured by a seven-point, ten items semantic differential scale developed by Spangenberg (2003) and adapted to Italian. The scales were identical for both conditions (utilitarian and hedonic). Two weeks after the Qualtrics' sharing, the pre-test was closed with 70 responses, which were actually higher than expected. Anyway, the dataset was cleaned eliminating partial or ungiven responses, reaching a final number of 47 responses. The Cronbach-Alpha and the Common Factor Analysis were performed to test respectively the reliability and the validity of the scales. Both scales were found to be reliable for Cronbach-Alpha's values greater than the cut-off 0.60. The Common Factor Analysis revealed that the scale for the utilitarian condition was valid for six items over ten, since two subdimensions were found in the scale after having deleted cross-loading factors. Conversely, the scale for the hedonic condition had only one subdimension after the cross-loading. That is to say that this scale was not valid but reliable for its two subdimensions.

Research Design and Data-Collection Methodology

The empirical analysis carried out in this study had the main purpose to test how motives to shop online (X-independent variable) influenced consumers' willingness to buy (Y-dependent variable) via shopping modality (depending on whether it was traditional or vocal). A causal research design was chosen to evaluate this moderation effect on the causal relationship between motives to shop online and willingness to buy. An online experiment was run in which participants were randomly assigned to one of the fourth combined conditions, and were asked to complete a questionnaire. Both motives to shop online (X) and shopping modalities (Z) were non-metric variables. In particular, a value of 1 was assigned to the "utilitarian" motive to shop, whereas a value of 0 was assigned to the "hedonic" one. Regarding the online shopping modality (the moderator), a value of

1 referred to the "traditional" modality, while a value of 0 referred to the "vocal" modality. On the contrary, the willingness to buy was a metric variable since it was measured by a multi-item scale.

Experiment Procedure and Measure

As done previously for the pilot-test, a Qualtrics questionnaire was involved for the experiment too. Specifically, it was designed as a between subject, since participants received one of the four versions of the questionnaire, which were identical expect for the conditions randomly assigned to them. For each condition, respondents were firstly exposed to a utilitarian and hedonic scenario. No images of the products were showed to participants in order to avoid biased results based on people' aesthetic preference. In the traditional online shopping conditions (with no difference between hedonic or utilitarian motives to shop online), they were exposed to a picture depicting an online purchasing act through a traditional e-commerce site. Conversely, in the vocal conditions, the picture depicted a dialog between a human and the Alexa smart assistant. These images were chosen to strengthen the traditional vs voice shopping modality's manipulation. The scale developed by Spangenberg (2003) was used to measure the online motives to shop online. The willingness to buy (Y) was measured by a seven-point Likert scale developed by Dodds et al. (1991) adapted to Italian (Molto bassa/Molto alta). The seven items, seven points Likert scales developed by Forsythe at al. (2016) were used to measure the perceived risks and perceived benefits related to the four conditions.

Results

Sample Descriptive

The online experiment reached 270 responses one month after its launch. I deleted all the partial or ungiven responses, resulting in a final sample made up of 130 Italian participants (80 females, 38 males and 12 not given answer). The age of respondents ranged between 15 and 87 years old divided as follow: $15 \le x \le 40$ (47.7% of respondents); $41 \le x \le 66$ (39.2%); $67 \le x \le 87$ (3.4%); 10% not answering people. Concerning the employment, it was found that 50.8% of the sample was composed by workers, followed by 32.3% of students and just 6.9% unemployed. Again, 10% of the sample did not answer to this question.

Results of the experiment

The online shopping modality's moderation effect was analysed through a two-way ANOVA. Both the independent variable (X) and the moderator (Z) were categorical in nature. Thus, two new dummy variables were coded for them in order to run the analysis. The "motives to shop online"

variable was renamed as "IV" (independent variable), where a value of 1 was assigned to the utilitarian motive, whereas a value of 0 was assigned to the hedonic one. The "online shopping modality" variable was coded as "TradVSVocal", where the value of 1 referred to the traditional shopping modality, while the value of 0 referred to the vocal one. The two-way ANOVA analysis proved the overall model to be statistically significant (F=3.843, p<0.05), and the interaction term TradVSVocal*IV too was significant (F=6.725, p<0.05). In addition, the graph of marginal means was performed with the aim to interpret these results. The evidence is that the traditional shopping modality had higher values than the vocal shopping modality for the hedonic condition. Yet, the traditional shopping modality has higher values than vocal still in the utilitarian condition, even if the difference among the estimated marginal means is lower compared to the previous condition. Hence, the moderation effect is proven, but it generated opposed results to what I hypothesized at the beginning of this work of thesis. Given this outcome, I carried out a one-way ANOVA treating the "TradVSVocal" as the independent variable, and the "WTBALL" as the dependent variable. The result is relevant for the study at hand, since it proved that group means are significantly different. It means that the online shopping modalities had differential impact on WTB. Nevertheless, no significant results were obtained comparing means of TradVSVocal neither with perceived benefits or risks.

Conclusions

The interpretation of the abovementioned results revealed that the hypothesis formulated (H1) was not verified. Indeed, the traditional online shopping modality had higher mean values under the hedonic condition compared to the mean values of vocal commerce on the same condition. Nevertheless, it is proven through the one-way ANOVA that the online shopping modality, thus the vocal commerce too, has a significant effect on the willingness to buy. From a theoretical standpoint, the graph of marginal means proved that the vocal-shopping has an effect on the willingness to buy. Hence, when consumer is in a state of flow, he/she generates better attitudes toward the final purchase (Konzan, 2016). From a managerial standpoint, the results of this thesis show that willingness to buy does not only depend by which kind of products is sold, or whether the product is online or offline. Indeed, it also depends on which kind of online shopping modality is chosen by consumers. Knowing this, the most visionary companies can even anticipate consumers' needs managing to offer a superordinate level of service through the voice-commerce. Since the effects of vocal-commerce have never been tested previously in Italy, this thesis can be considered a sort of pilot testing for this new trend. For a future research in the same field, I would suggest to select a sampling technique different from the non-probability chosen here in order to get a more heterogenous sample. In addition, I would recommend to shorten the length of the questionnaire to obtain even more accurate responses.

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